# MOUNTAIN VIEW WHISMAN SCHOOL DISTRICT

# CONDITIONS & NEEDS ANALYSIS

October 20, 2009

BILL GOULD DESIGN
ART & ARCHITECTURE

# *Engineering Consultants*

**Architectural**

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**Structural:**

Hohbach-Lewin, Inc.

**Mechanical:**

Alfa Tech Consulting Engineers

**Plumbing:**

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**Electrical:**

Alfa Tech Consulting Engineers

**Technology:**

Alfa Tech Consulting Engineers

# *Table of Contents*

# *Introduction*

Mountain View Whisman School District operates K-8 schools serving the community of Mountain View. The District is the result of a merger between the Mountain View School District and Whisman School District in 2001. Most of the facilities were originally constructed between 1950 and1964.

The District facilities consist of ten elementary schools (K-5), two middle schools (6-8), the District office, and two corporation yards. In addition, District retains a right to develop a school at Sylvan Park. Of the ten elementary schools, eight are currently operating, and two have been leased to private schools. One of the corporation yards, as well as the District kitchen, are housed at Crittenden Middle School. Another corporation yard is housed at Graham Middle School. There are two joint use facilities with the City of Mountain View, including sport centers at Crittenden and Graham. The City maintains and uses the fields at most schools pursuant to a joint use agreement. Several schools also provide space for day care and extended care programs pursuant to this agreement.

The two most recent General Obligation Bonds passed have funded construction of a considerable number of additions and modernizations. In 1996 a Measure C General Obligation Bond in the amount of $34,000,000 was passed for the Whisman School District. A long range facilities master plan was prepared for purposes of defining the scope of this measure. Projects funded through this measure consisted of major modernizations throughout campuses including restroom renovations, seismic, mechanical, plumbing and electrical system upgrades, interior and exterior finish improvements, and roof replacement. Additions to the sites included site-built one and two-story classroom buildings, administrative and staff offices, a library building, a computer lab, and a Multi-Use Room (MUR).

In 1998 a Measure D General Obligation Bond in the amount of $36,000,000 was passed for the Mountain View School District. Projects funded through this measure consisted of classroom modernization, including access compliance, mechanical, plumbing and electrical system upgrades, interior and exterior finish improvements, and roof improvements. MUR modernizations included interior and exterior finish improvements, restroom renovations as well as creation of new serveries and kitchens. Additions to the sites consist of a site-built staff lounge, modular classrooms, and library buildings.

While both Districts utilized their bond funding efficiently, due to the disproportionate funding amounts as related to the scope of projects required at each District, there are some discrepancies in the extent of renovation performed, resulting in a disparity in the current state of the facilities, particularly noticed at the MURs and libraries. However, since the merger, the District has acknowledged the need to develop a plan as a means of achieving a common equitable base for the facilities. Some of the major projects completed since the merger include installation of modular classrooms, repaving of sites, and upgrading the athletic field at Graham.
In order to meet the District's strategic goals, increasing student enrollment, and educational needs, the District is creating a 10 year "Student Facilities Improvement Plan" (SFIP).

# *Methodology*

The intent of this section is to define the planning process, clarify scope of work, identify the systems, and provide guidance to the evaluation framework of each division.

## Facilities Assessment

The goal of the Conditions and Needs Analysis report is to identify the existing building and site conditions, the technological readiness, and the educational suitability of the existing facilities at the time of this report. Development of this report included the following activities:

- Review of available drawings including original construction documents, modernization plans, and as-builts;
- Site Assessment by means of field verifications;
- Meetings with District administrative staff, principals, parents, and community members to determine current facility needs;
- Information cataloguing and statistical and data analysis; and,
- Evaluation of existing conditions from functional, code compliance, existing District standards, architectural, and engineering perspectives.

Input from site representatives was obtained through a questionnaire,[1] which was distributed to each school to solicit their comments about the condition and educational suitability of the existing facilities on their respective sites. Following the initial data collection, meetings were scheduled at each site to discuss concerns (See Appendix 1 for school specific responses). Data recorded from these meetings in conjunction with architectural and engineering assessments of the facilities were taken into consideration in developing recommendations for each site.

Information provided in this report is based on District enrollment, District policies and most recent codes, regulations, and guidelines in effect at the time of review. As these factors change, recommendations will be revised and reflected in the SFIP. The Conditions and Needs Analysis report herein will serve as a working tool guiding the District's future facilities improvement.

[1] Questionnaire was prepared based on the Architect's professional experience and review of best practices. See Appendix 1.

*The following facilities were assessed as part of this report:*

Elementary Schools:

- Bubb Elementary School
- Castro Elementary School
- Cooper Elementary School
- Huff Elementary School
- Landels Elementary School
- Monta Loma Elementary
- Slater Elementary School
- Stevenson Elementary School
- Theuerkauf Elementary School
- Whisman Elementary School

Middle Schools:

- Crittenden Middle School
- Graham Middle School

Other Facilities:

- District Office
- District Corporation Yards
- District Transportation Yard

Other:

- Sylvan Park (in which District retains development rights)

## Basis of Assessment

The facilities existing conditions were evaluated from functional, code compliance, architectural, and engineering perspectives.

The conditions of systems (excluding structural) were classified using the following subjective rating system:

- **Good:** Indicates that the systems are functioning properly and are expected to last at least ten years.
- **Fair:** Indicates that the systems are functioning; however, due to potential deficiencies noticed and/or industry standard life expectancies, they are not expected to last 10 years.
- **Poor:** Indicates systems that are not functioning properly and fail to meet their intended purpose or have passed their life expectancy.

Recommendations provided were classified in three categories. The categories are defined as follows:

- **Category 1**
  Strongly recommended and/or required by Code[2] due to health or safety concerns
- **Category 2**
  Recommended in order to sustain intended system performance and protect from deterioration or failure.
- **Category 3**
  Program and system enhancements (discretionary, subject to prioritization)

Given that the findings in this report are based on limited visual survey[3], certain in-depth studies (beyond the scope of this report) have been recommended throughout the divisions to identify and address any potential deficiencies. Also, this report does not include a hazardous material survey and analysis, and therefore does not address any related work. Prior to commencement of the design phase at each individual site, a Hazardous Material Assessment should be performed to determine the existence of hazardous materials and the extent thereof.

[2] Current applicable codes pertaining to each system for both modernization and new construction. Refer to Appendix 2 for a description of all applicable codes.

[3] A visual survey is an observation of the physical conditions of the facility, which entails professional interpretation in determination of potential deficiencies, if any. Laboratory and destructive testing are not preformed as part of this survey.

Systems included in each division as well as evaluation process details are described below.

## Architectural

### 1. Buildings

Building counts and areas were assessed based on Title 5, California Code of Regulations (CCR) area requirements for new schools. These requirements were used as guidelines only for the purposes of this report. Where indicated, recommendations were provided based on compliance with the California Building Code (CBC).

The certification plates were checked to verify age of modular[4] buildings. The age of the modular buildings as well as information from the District staff, regarding problems and maintenance issues, were all used in developing the recommendations. It is recommended that modular buildings built prior to 1995 be replaced as they are prone to roof leaks, mold and termite damage, plumbing leaks, age related repairs to the HVAC system, damaged flooring due to settlement of the building, and other similar problems. Newer buildings have been designed and built with better moisture protection details and have generally been installed to have better ventilation and water drainage under the buildings thereby reducing the possibility of mold.

Restrooms were assessed for compliance with California Building Code (CBC) accessibility standards. Additionally, they were evaluated to determine if the quantity of existing plumbing fixtures meets the California Plumbing Code (CPC) and the Division of the State Architect's (DSA) regulations.

School specific data such as existing and recommended number of buildings, areas, and maximum and allowable occupancies have been provided in Tables "A-1 Classroom Occupancy" and "A-2 Space Utilization."

Exterior finishes such as roofing, wall coverings, doors, and windows were visually assessed for weather tightness and signs of failure or damage. This was combined with discussions with District staff to determine the age of the systems and identify any existing problems. Industry standards were used to determine the need for replacement or upgrade within the period of the study.

Interior finishes such as ceiling surfaces, flooring, doors, and wall surfaces were visually assessed for signs of wear and tear. Casework was assessed for conformance with the accessibility provisions of the California Building Code (CBC) and the Division of the State Architect's (DSA) Universal Access provisions.

[4] Modular buildings identified in this report refer to factory built modular buildings installed either permanently on concrete foundations or temporarily on wood foundations. When legally approved by the Division of the State Architects (DSA), both are Field Act Certified.

## 2. General Site

### 2.1. Accessibility

The path-of-travel from the public street and accessible parking stalls into and through the campus to individual classrooms was assessed for conformance with the accessibility provisions of the California Building Code (CBC) and the Division of the State Architect's (DSA) Universal Access provisions. The purpose of these Codes and Regulations is to provide persons with physical disabilities the ability to independently navigate the path-of-travel in a manner equal to that of a non-disabled person. As such, compliant paths of travel are of adequate width and are absent of excessive slopes and abrupt changes in level.

The availability of accessible restrooms and workstations was also assessed against the requirements of the CBC and Universal Access.

Prior to commencement of the design phase, a detailed "Accessibility Evaluation Survey" should be performed for each site to identify a comprehensive list of existing barriers to accessibility as part of the site's "Accessibility Transition Plan."

### 2.2. Parking, Pick-Up/Drop-Off and Bus Loading

Parking, pick-up/drop-off and bus loading areas were assessed for safety in accordance with Title 5, California Code of Regulations (CCR). The assessment indicates whether parent drop-off, bus loading, and parking areas were separated to allow students to enter and exit the school grounds safely. Parking lots were assessed for adequacy per California Department of Education (CDE) guidelines for new schools and accessibility provisions of the California Building Code (CBC). Refer to Table A-2 Space Utilization for the number of existing and recommended parking stalls at each school.

### 2.3. Hard-Court, Play Equipment Areas, and Fields

Hard-court, play equipment areas, and fields were assessed for compliance with California Department of Education (CDE) guidelines based on grade level standards and sizes. For existing and recommended areas of these spaces, refer to Table A-2 Space Utilization for each school.

Surfaces were visually assessed for signs of failure and damage. This was combined with District staff discussions to determine latest upgrades and existing identified problems.

Prior to commencement of the design phase, a detailed playground safety survey should be performed to measure the existing play equipment against the latest Standard Consumer Safety Performance Specifications for Playground Equipment for Public Use (ASTMI F1487) and the Consumer Product Safety Commission (CPSC) guidelines.

### 2.4. Covered Walkways

Covered walkways were visually assessed for signs of failure and damage; this was combined with discussions with District staff to determine the age of roofing and any existing identified problems.

## Structural

A qualitative seismic evaluation of the Mountain View Whisman School District's existing building stock which pre-dates 1960, has been performed. Minor or major modeling has been performed on some of it. (Modular buildings were not included in this study as they are, if legally approved Field Act certified buildings, generally and predominantly not considered to present a hazard to building occupants during large locally-occurring earthquakes.) The subject buildings were evaluated based on achieving a "life safety protection" performance objective. This performance objective represents minimum standards of seismic resistance generally recognized as providing adequate seismic risk protection to building occupants during large locally occurring earthquakes. The deficiencies identified in this report reflect the ASCE 31-03 Tier I results which were confirmed via rough code based analysis and/or ASCE 31-03 Tier II analysis as applicable.

Where seismic deficiencies were noted, further study beyond the scope of this effort should be undertaken so that identified deficiencies can be confirmed, and so that it can be determined if retrofit measures should be implemented in concert with upcoming modernization projects.

Upon completion of the study, the subject building's lateral force resisting systems were assigned one of the four following subjective ratings:

- **1.0 Good** – No significant seismic deficiencies are identified and no further action relating to seismic evaluation and/or retrofit measures are recommended at this time.

- **2.0 Deficient** – Buildings receiving this rating appear to possess global lateral force resisting systems and constituent lateral force resisting structural elements which, when subjected to large locally-occurring seismic events, are regarded as providing a level of protection to building's occupants that is generally consistent with performance levels expected from buildings constructed to the building codes in effect at the time of the building's construction. Potential seismic deficiencies are identified. More detailed studies (beyond the scope of this report) are recommended to confirm the presence of identified potential deficiencies and to determine what, if any, seismic retrofit measures should be incorporated into anticipated upcoming modernization projects.

- **3.0 Unacceptable** – Buildings receiving this rating appear to possess global lateral force resisting systems and constituent lateral force resisting structural elements, which when subjected to large locally occurring seismic events, are regarded as potentially resulting in significant risk to building's occupants. Serious potential seismic deficiencies are identified. It is recommended that more detailed studies (beyond the scope of this report) be conducted as soon as practicable to validate the suspected presence of identified potential deficiencies and to determine what, if any, immediate actions should be undertaken to ameliorate this situation.

- **4.0 Dangerous** – Buildings receiving this rating are expected to be potentially hazardous to building occupants even if subjected to relatively small seismic events which have a relatively high probability of occurrence within relatively short time intervals. Steps should be undertaken to take these buildings out of service as soon as practicable so that mitigation measures can be implemented.

For full text of structural report and applicable ASCE 31-03 Tier I checklist sheets, see Appendix 4.

## Mechanical

The Mechanical Report and comments to follow are based on observations of the general condition of the mechanical systems and noticeable code issues resulting from an on-site visit, review of the existing record drawings, and feedback from Mountain View Whisman School District staff. The mechanical systems assessments were based on Title 24, CMC, and ASHRAE.

Title 24 is a federal set of laws that mandate the construction industry to conserve energy. The requirements for Title 24 change every couple of years and must be met for DSA Approval of any new construction or modernization.

The mechanical systems include:

1. **HVAC Equipment**
   HVAC equipment evaluated consists of:

   - **Rooftop Gas/Electric Package Air Conditioning Units**
     These units typically provide heating and cooling for any type of space such as classrooms, administration, library, and MUR.

   - **Split System (indoor gas fired furnaces and outdoor condensing units)**
     These units provide heating and cooling for smaller areas such classrooms and offices. These units are typically 3 to 5 tons.

   - **Split System (cooling-only indoor fan coils and outdoor condensing units)**
     These units provide cooling for IDF/MDF rooms and for individual controls for small environments such as small offices.

   - **Exhaust Fans**
     These units provide ventilation for restrooms, electrical rooms and storage areas.

   - **Ductwork**
     This provides a means of conveying supply air from HVAC units to the space or from the space to the HVAC unit or exhaust fan.

   - **Air Distribution**
     System includes ductwork and grills, which convey air to a space or HVAC unit or exhaust fan.

   - **Controls**
     Include thermostats, variable frequency drives, and the energy management system, which varies the operation of equipment, duration, and speed.

2. **Energy Management System (EMS)**
   The EMS controls the environment to optimize the operation of the HVAC system. BACNet is a Data Communications Protocol for Building Automation and Control Networks. It allows centralized communication between equipment and controls.

## Plumbing

The Plumbing and Site Utilities report and comments to follow are based on observations of the general condition of the plumbing and site utility systems and noticeable code issues resulting from an on-site visit and review of the existing record drawings and feedback from District staff. The plumbing and site utilities assessments were based on CPC and Title 24.

The plumbing and site utility systems include:

1. **Plumbing System**
   Includes plumbing fixtures, such as water closets, lavatories, urinals and service sinks, and plumbing equipment, such as water heaters, pumps, expansion tanks, etc.

2. **Gas System**
   System that carries gas from the gas meter and gas piping to the building.

3. **Domestic Water System**
   System that carries domestic water from the water meter and domestic water piping to the building.

4. **Sanitary Sewer System**
   System that carries the waste water from plumbing fixtures to the city sewer system.

5. **Storm Drainage System**
   System that carries the rain water from the building or hard surface area via catch basins to the city storm system.

## Electrical

The Electrical report and comments to follow are based on observations of the general condition of the electrical systems and noticeable code issues resulting from an on-site visit and review of the existing record drawings and feedback from District staff. The electrical system assessments were based on CEC, NEC, Title 24, and NFPA 72.

The electrical systems include:

1. **Power**
   Consists of electrical service switchboard, electric distribution, panel boards, receptacles, and raceway installation.

2. **Lighting**
   Consists of light fixtures, illumination level, control, emergency egress lighting, exterior pathway and security lighting.

3. **Fire Alarm**
   Consists of fire alarm system, initiation and notification device location and coverage.

4. **Paging/Clock**
   Consists of paging/clock system, speaker and clock location and coverage.

5. **Security**
   Consists of security system, door contacts, and motion sensors.

## Technology

The Technology report and comments to follow are based on observations of the general condition of the technology systems and noticeable code issues resulting from an on-site visit and review of the existing record drawings and feedback from District staff. The technology systems assessments were based on BICSI, UBC, NEC, and NFPA. Current Cabling Standard refers to the latest edition of the Commercial Building Telecommunications Cabling Standard, ANSI/TIA/EIA-568-B.

The technology systems include:

1. **Structure Cabling**
   Building or campus telecommunications cabling infrastructure that consists of a number of standardized smaller elements (hence structured) called subsystems. Structured cabling falls into six subsystems:
   - Entrance Facilities are where the building interfaces with the outside world.
   - Intermediate Distribution Frame (IDF) host equipment serves the users inside the building.
   - Main Distribution Frame (MDF) houses telecommunication equipment which connects the backbone and the horizontal cabling subsystems and interfaces with the outside world for a small site.
   - Backbone Cabling connects between the Entrance Facilities, IDF, and MDF.
   - Horizontal Cabling connects IDF to individual outlets on the floor. Category 6 cable was designed to perform at frequencies of up to 250 mhz and offers higher performance for better transmission of data at speeds up to 1000 Mbps.
   - Work-Area Components connect end-user equipment to outlets of the horizontal cabling system.

2. **IDF/MDF Environment**
   IDF is a space located between the MDF (main distribution frame) and the intended end user devices (telephones, printers, PCs, etc.). MDF is a space that interconnects and manages the telecommunications wiring between itself and any number of IDFs. Unlike an IDF, which connects internal lines to the MDF, the MDF connects private or public lines coming into a building with the internal network.

3. **Video Safety System**
   The video safety system is a network video system that allows video to be monitored and recorded from anywhere on the network, whether it is, for instance, on a Local Area Network (LAN) or a Wide Area Network (WAN) such as the Internet. The core components of a network video system consist of the network camera, the video encoder (used to connect to analog cameras), the network, the server and storage, and video management software.

4. **Data Network**
   The data network transfers data from one location to another, e.g., a system of computers and peripherals, such as printers, that are linked together. A network can consist of as few as two computers connected with cables or millions of computers

that are spread over a large geographical area and are connected by telephone lines, fiber optic cables, or radio waves.

5. **Video Distribution System**
   A system that provides the capacity to deliver audio and video signals to classrooms and other designated areas using the LAN as the transport. The system is intended to deliver the following capabilities:
   - Use Video On Demand (VOD) technology to record and store content for future use.
   - Utilize the Data Network as the transport for distribution.

6. **VoIP Phone System**
   A VoIP phone system is a digital telephone system that uses the public Internet and private backbones for call transport. It's an open source private branch exchange (PBX) system that offers unified communications features. The sipXecs IP PBX is a native SIP based solution that offers all the typical features expected from a PBX, including voicemail, unified messaging, auto-attendant, conferencing, presence and call center capabilities. Its Web Services (SOA) based management and configuration system allows centralized management of a distributed system and offers plug & play configuration for all phones and gateways. Phones are Polycom 321/331 and 450s.

7. **Smart Classroom**
   A classroom equipped with multimedia components designed to enhance instruction and learning is a smart classroom. Examples of equipment are ceiling mounted multimedia projection units, pull-down screens, computers, preview monitors, multimedia cabins, document cameras, wall mounted speakers with brackets and amplifier, and a custom control unit.

# *Bubb Elementary School*

**General Information**

| | |
|---|---|
| Address: | 525 Hans Avenue<br>Mountain View, CA 94040 |
| Telephone: | 650.526.3781 |
| Grade Levels: | K-5 |
| 2008/2009 Enrollment: | 487 Students |

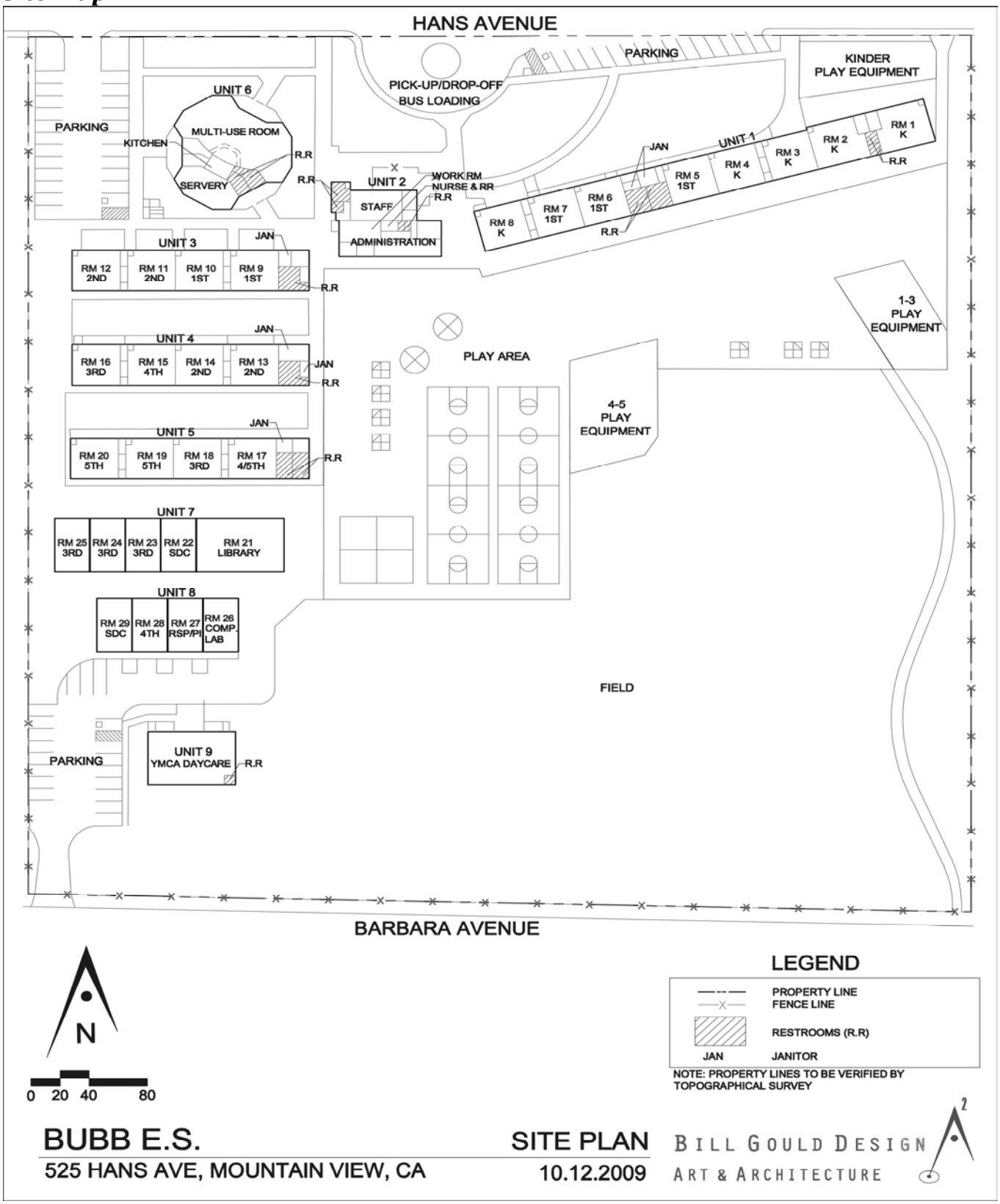
**Site Information:**

| | |
|---|---|
| Gross Acreage: | 9.66 Acres |
| Net Useable Acreage: | 9.66 Acres |

**Building Information:**

| | |
|---|---|
| Original Construction: | 1953 |
| Additions: | 1954 – 2002 |
| Gross Building Area: | 45,537 sq. ft. |
| Site-built Construction: | 33,057 sq. ft. |
| Modular Construction: | 12,480 sq. ft. |

## *Site Map*


HANS AVENUE
PARKING
KINDER PLAY EQUIPMENT
PICK-UP/DROP-OFF BUS LOADING
UNIT 6
MULTI-USE ROOM
KITCHEN
SERVERY
R.R
UNIT 2
WORK RM
NURSE & RR
STAFF
ADMINISTRATION
UNIT 1
RM 1 K
RM 2 K
RM 3 K
RM 4 K
RM 5 1ST
RM 6 1ST
RM 7 1ST
RM 8 K
JAN
UNIT 3
RM 12 2ND
RM 11 2ND
RM 10 1ST
RM 9 1ST
UNIT 4
RM 16 3RD
RM 15 4TH
RM 14 2ND
RM 13 2ND
UNIT 5
RM 20 5TH
RM 19 5TH
RM 18 3RD
RM 17 4/5TH
1-3 PLAY EQUIPMENT
PLAY AREA
4-5 PLAY EQUIPMENT
UNIT 7
RM 25 3RD
RM 24 3RD
RM 23 3RD
RM 22 SDC
RM 21 LIBRARY
UNIT 8
RM 29 SDC
RM 28 4TH
RM 27 RSP/PI
RM 26 COMP. LAB
FIELD
UNIT 9
YMCA DAYCARE
BARBARA AVENUE
N
0 20 40 80
LEGEND
PROPERTY LINE
FENCE LINE
RESTROOMS (R.R)
JAN JANITOR
NOTE: PROPERTY LINES TO BE VERIFIED BY TOPOGRAPHICAL SURVEY
BUBB E.S.
525 HANS AVE, MOUNTAIN VIEW, CA
SITE PLAN
10.12.2009
BILL GOULD DESIGN
ART & ARCHITECTURE
2

## *Introduction*

Bubb Elementary School serves the central area of Mountain View and is located near the southern boundary of the city. Bubb draws its students from a diverse socioeconomic community. The community has a rich cultural mix with more than twenty languages represented. Bubb was originally constructed in 1953. Since the original construction, a number of modernization and addition projects have taken place starting in 1954 and continuing through 2002.

The site is 9.66 acres and consists of site-built and modular buildings which are spread out into wings; buildings consist of a hexagonal shaped MUR, administration building, four general classroom wings, two rows of modular buildings comprising of classrooms, computer lab and the library, and, finally, a modular building housing the YMCA daycare.

## *Planning Process*

The assessment process included review of drawings, site visits and field verifications, meetings with District administrative staff and school committees, and, finally, evaluation of collected data. Following the assessment process, recommendations were developed to improve the conditions and educational suitability of each site. These recommendations were classified based on categories described in "*Basis of Assessment*" in the Methodology section of this report. The existing conditions were evaluated following a Good, Fair, Poor rating system as described in the Methodology section.

School specific data, such as existing and recommended number of buildings, space areas, and maximum and allowable occupancies, have been specified in Tables A-1 Classroom Occupancy and A-2 Space Utilization.

Information provided is based on District enrollment, District policies and most recent codes and guidelines in effect at the time of this report. As these factors change, recommendations will be revised and reflected in the SFIP. The Conditions and Needs Analysis Report herein will serve as a working tool guiding the District's future facilities improvement plan.

## *Summary*

While potential deficiencies were identified throughout the campus within this study, in no instance were they of a serious enough nature to warrant immediate action. Individual scopes of work and their projected costs will be developed as part of the upcoming SFIP to be implemented in future modernization projects.

**Table A-1 Classroom Occupancy**

| Use | | Room # | Bldg Type /number of Modulars | Modular Year Built[1] | Working Capacity[2] (# students) | Existing Area ( s.f) | Recommended Area (s.f.)[3] | Modular Bldg Area (s.f) | Other (s.f.) |
|---|---|---|---|---|---|---|---|---|---|
| **Kindergarten** | K | 1 | Site-built | | 20 | 1,370 | 1,350 | | |
| | K | 2 | Site-built | | 20 | 1,360 | 1,350 | | |
| | K | 3 | Site-built | | 20 | 1,020 | 1,350 | | |
| | K | 4 | Site-built | | 20 | 1,020 | 1,350 | | |
| | K | 8 | Site-built | | 20 | 1,025 | 1,350 | | |
| **Sub Total** | | | **0** | | **100** | **5,795** | | | |
| **Grades 1-3** | 1 | 5 | Site-built | | 20 | 1,020 | 960 | | |
| | 1 | 6 | Site-built | | 20 | 1,020 | 960 | | |
| | 1 | 7 | Site-built | | 20 | 1,020 | 960 | | |
| | 1 | 9 | Site-built | | 20 | 1,020 | 960 | | |
| | 1 | 10 | Site-built | | 20 | 1,020 | 960 | | |
| | 2 | 11 | Site-built | | 20 | 1,020 | 960 | | |
| | 2 | 12 | Site-built | | 20 | 1,025 | 960 | | |
| | 2 | 13 | Site-built | | 20 | 1,020 | 960 | | |
| | 2 | 14 | Site-built | | 20 | 1,020 | 960 | | |
| | 3 | 16 | Site-built | | 20 | 1,025 | 960 | | |
| | 3 | 18 | Site-built | | 20 | 985 | 960 | | |
| | 3 | 23 | Modular | 1993 | 20 | 960 | 960 | 960 | |
| | 3 | 24 | Modular | 1993 | 20 | 960 | 960 | 960 | |
| | 3 | 25 | Modular | 1993 | 20 | 960 | 960 | 960 | |
| **Sub Total** | | | **3** | | **280** | **14,075** | | **2,880** | |
| **Grades 4-5** | 4 | 15 | Site-built | | 30 | 1,020 | 960 | | |
| | 4 | 28 | Modular | 1993[4] | 30 | 960 | 960 | 960 | |
| | 4/5 | 17 | Site-built | | 30 | 985 | 960 | | |
| | 5 | 19 | Site-built | | 30 | 985 | 960 | | |
| | 5 | 20 | Site-built | | 30 | 990 | 960 | | |
| **Sub Total** | | | **1** | | **150** | **4,940** | | **960** | |
| **Special Programs - Pull Out** | | | | | | | | | |
| | SDC (K-1) | 22 | Modular | 1993 | 12 | 960 | 960 | 960 | |
| | RSP/PI | 27 | Modular | 1993 | 0 | 960 | 240 | 960 | |
| | SDC (2-3) | 29 | Modular | 1993[4] | 12 | 960 | 960 | 960 | |
| | YMCA | | Modular | 1993 | 0 | 2,400 | | 2,400 | |
| | Computer lab | 26 | Modular | 1993 | 0 | | | 960 | |
| **Sub Total** | | | **5** | | **24** | **5,280** | | **6,240** | |
| | Library | 21 | Modular | 1993 | 0 | | | 2400 | |
| | Restrooms, Storages, Elec. Rms- not included in other bldg areas | | | | | | | | 4,075 |
| **Other** | | | **1** | | | | | **2,400** | |
| **TOTALS** | | | **10** | | **554** | **30,090** | | **12,480** | |

Notes:

1- Certification plates as well as available construction documents were checked to verify modular DSA #s and year of installation.

2- Working Capacity (Class Size Reduction)=20 students/class for grades K-3 and 30 students/class for grades 4-5 based on schools current utilization.

3- Per Title 5, California Code of Regulations (CCR) for new schools. (used as guideline only)

4- Originally built in 1990, DSA #53207. Moved to Bubb site in 1993.

**Table A-2 Space Utilization**

| Use | Bldg Component | Current Number of Classes/teaching stations | Number of Modulars | Bldg Component Area (s.f.) | Existing Area (s.f.) | Current Enroll. | Working Capacity[8] (# students) | Maximum Capacity[8] (# students) | Recommended Area (s.f.) | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | |
| **K** | | 5 | 0 | | 5,795 | 21 | 100 | 135 | | |
| **1-3** | | 14 | 3 | | 14,075 | 296 | 280 | 378 | | |
| **4-5** | | 5 | 1 | | 4,940 | 146 | 150 | 150 | | |
| **K-5 Sub-Total:** | | **24** | **4** | | **24,810** | **463** | **530** | **663** | | |
| | | | | | | | | | | |
| **Special Programs[5]** | | | | | | | | | | |
| | | | | | | | | | | |
| SDC (K-1) | | 1 | 1 | | 960 | 12 | 12 | 12 | 960 | |
| RSP | | 1 | 1 | | 960 | | | 30 | 240 | |
| SDC (2-3) | | 1 | 1 | | 960 | 12 | 12 | 12 | 960 | |
| YMCA | | 1 | 1 | | 2,400 | | | 60 | | |
| Band | | 1 | | | | | | | | Take place in MUR, area not included in special program sub-total |
| Art | | 1 | | | | | | | | Take place in MUR, area not included in special program sub-total |
| RSP | | 1 | | | | | | | 240 | Take place in MUR, area not included in special program sub-total |
| Computer Lab | | 1 | 1 | | 960 | | | | | |
| | | | | | | | | | | |
| **Sub-Total:** | | **8** | **5** | | **6,240** | **24** | **24** | **114** | | |
| | | | | | | | | | | |
| **Administration/Staff Lounge/ Staff workroom** | | | | | 3,050 | | | | | |
| **Library[6]** | | | **1** | | 2,400 | | | | 974 | |
| **Multi use** | | | | | 4,962 | | | | | |
| | Assembly [7] | | | 3,070 | | | | | 3,409 | Area recommended to accommodate current enrollment population in assemblies.<br>Area required to accommodate 1/3 of current enrollment during lunch = 2,435 s.f. |
| | Servery | | | 930 | | | | | | |
| | Other (restroom, storage,office, kitchen) | | | 962 | | | | | | |
| **Restrooms,storages--not included in bldg areas** | | | | | 4,075 | | | | | |
| | | | | | | | | | | |
| **Sub-Total:** | | | **1** | | **14,487** | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| **Total :** | | **32** | **10** | | **45,537** | **487** | **554** | **777** | | |

| **General:** | **Existing** | **Recommended** | |
|---|---|---|---|
| Property | 9.66 ac | | |
| Parking [1] | 48 stalls | 72 | Stalls |
| Accessible Parking[2] | 3 stalls | 3 | Stalls |

| **Existing Buildings:** | **# of Bldgs** | **% of Total** | **Bldg Area (s.f.)** |
|---|---|---|---|
| Total Building Area: | | | 45,537 |
| Modulars | 10 | 27% | 12,480 |
| Site-built | | 73% | 33,057 |

| **Play Areas:** | **Grade Level** | **Existing area (s.f.)** | **CDE Recommended area(s.f.)[4]** |
|---|---|---|---|
| Play Equipment Area | K | 3,270 | 2,000 |
| | 1-3 | 3,800 | 9600 |
| | 4-5 | 5,075 | 6,400 |
| Hard-Court | K | 1,640 | 2,000 |
| | 1-5 | 68,400 | 34,000 |
| Fields/Turf | K | -- | 3,000 |
| | 1-5 | 148,750 | 86,400 |

| **Students /Staff[3]** | | |
|---|---|---|
| Current Enrollment | 487 | **"Medium"** size school per CDE |
| Staff | 50 | |

| **Restrooms :** | **Existing # Toilets, # Urinals (U)** | **Required[9] # Toilets, # Urinals (U)** |
|---|---|---|
| YMCA daycare[10] | 1 | n/a |
| Kinder | 4 | 2 |
| 1-5 | 34, 13 U | 20, 4 U |
| Staff | 5 | 3, 1 U |

| **Classrooms** | |
|---|---|
| Undersize classes (< 945 s.f.) | 0 |

**Notes:**

1- Number of parking stalls recommended per CDE guidelines based on number of teaching stations.

2- Number of accessible parking spaces required per CBC based on number of parking stalls.

3- Current student enrollment and number of staff provided by school.

4- Recommended area is based on current enrollment per CDE guidelines.

5- Recommended area for special program classrooms are based on Title 5, California Code of Regulations (CCR) for new schools (used as guideline only.)

6- Recommended area is based on Title 5, CCR, for new middle schools, used as guideline only. Minimum 960 s.f. for elementary schools.

7- Recommended Area is determined per California Building Code (CBC) based on current enrollment. Max allowable occupants per CBC in the existing assembly area: for assemblies= 438, dining = 204

8- Working Capacity (Class Size Reduction)=20 students/class for grades K-3 and 30 students/class for grades 4-5 based on schools current utilization.

9- Required number of toilets is calculated based on current enrollment and staff per CPC. Quantities may vary if calculated based on space areas and their Occupant Load Factor (OLF) as indicated in CPC.

10- Required number of toilets is based on enrollment, to be provided by YMCA.

## *Assessment Summary*

Existing facilities were evaluated from functional, code compliance, architectural and engineering perspectives. Summary of the findings along with proposed recommendations of each division are provided herein.

## Architectural

### 1. Buildings

### 1.1. Classrooms[5]

There are twenty-four K-5 and five special program[6] classrooms (excluding programs taking place in the MUR), nine of which are housed in modular buildings. Most classrooms meet the CDE area recommendations with the exception of three kindergarten classrooms that are smaller than recommended which also do not contain interior restrooms.

- **Site-Built Classrooms (Units 1, 3, 4 and 5)**
  The modernization project for the site-built classroom buildings was conducted in 2002. The roofing system on these buildings is composition shingle and, due to recent upgrades, it is generally in good condition. Exterior finishes such as stucco wall coverings are in good condition. Doors and wood sash single-glazed windows are mainly in fair condition.

  Interior finishes in these classrooms include glue up acoustical tile ceilings and tackable wall coverings, which are generally in good condition. Case work and VCT flooring varies from fair to good depending on the classroom.

  Accessories such as whiteboards, chalk boards and screens, are in good condition. Curtain tracks are in fair condition and need to be adjusted closer to windows.

- **Modular Classrooms (Units 7, 8 and 9)**
  The modular buildings at this site were added in 1993; two of the modular buildings were relocated from another site.

  The roofing system on these buildings consists of metal standing seam and is in good condition in most places. Exterior finishes such as doors and T-111 siding are in fair condition. Single-glazed aluminum slider windows are in good condition, although the screens are in poor condition in most buildings.

  Interior finishes in these classrooms include suspended acoustical tile ceiling in poor condition, tackable wall covering and casework in fair condition, and VCT and carpet flooring, which varies from fair to poor. Accessories include mini-blinds in fair condition, and whiteboards and chalk boards which are generally in good condition. Also, a number of surface mounted conduits were located on the interior walls.

[5] Classrooms referred to herein are spaces where grade level and/or special programs are taught, regardless of room size.

[6] For a complete list and description of special programs refer to Appendix 3.

| Recommendation | Category[7] |
|---|---|
| • Provide internal restrooms in every kindergarten classroom. | 1 |
| • Expand and/or add kindergarten classrooms to meet current area requirements. | 1 |
| • Replace and/or upgrade interior and exterior finishes where in fair or poor condition. | 2 |
| • Remove and replace modular buildings built prior to 1995. | 2 |
| • Provide flexible classrooms to accommodate space for special programs (band, art, and science as well as after school programs) Number of flexible classrooms determined based on District's Educational Specifications. | 3 |

### 1.2. Multi-Use Room (MUR – Unit 6)

The MUR is a hexagonal shaped building originally built in 1965 and modernized in 2002. The MUR modernization included interior and exterior finish upgrades, restroom renovations, and creation of a new kitchen and servery. The design of this building is similar to four other schools within the district. The MUR includes a servery, kitchen, an assembly area and restrooms. The assembly area is used for assemblies, band and art programs. The assembly open space is not large enough to accommodate the entire school population during assemblies, although is it sufficient to accommodate one-third of the school population during lunch periods. The servery is being utilized as a lunch pass-through only. Main non-conformities in this building include non-compliant exiting (exterior arches are too close to exit doors and adequate landing space has not been provided) and inadequate clear space at restrooms.

The roofing system on this building is composition shingle. Due to recent upgrades, it is generally in good condition. Exterior finishes such as doors are in fair to poor condition, stucco wall coverings are in fair condition, and wood single-glazed storefront windows are in poor condition.

Interior finishes include glue up acoustical tile and gypsum board ceilings, gypsum board and FRP wall panels which are all generally in good condition. Doors are in fair condition and the casework is in poor condition. Flooring in this building consists of VCT in the assembly area and epoxy resin in the kitchen area both of which are in fair condition. Ceramic tile in the restrooms is in good condition.

Specialty items in the assembly area include a non-accessible removable stage, draw curtain, and a non-acoustic operable partition, all of which are in fair condition.

[7] Refer to Basis of Assessment in the Methodology section for category description.

| Recommendation | Category |
|---|---|
| • Renovate MUR to provide code compliant exiting and restrooms. | 1 |
| • Replace and/or upgrade interior and exterior finishes in fair or poor condition. | 2 |
| • Provide acoustical (operable walls in MUR to allow concurrence of multiple functions). | 3 |
| • Expand MUR to accommodate entire school population during assemblies. | 3 |

### 1.3. Administration (Unit 2)

The administration building was originally constructed in 1953, with additions and modernization conducted in 1995. The building is centrally located within the campus and includes four administrative offices, a nurse's office, a staff workroom and a staff lounge.

There are sufficient restrooms to meet current staff population per CPC requirements. The nurse's office has a dedicated student restroom, though it is not accessible. Other non-conformities include a non-accessible kitchen sink, and counter in the lobby.

Exterior finishes on this building include composition shingle roofing, stucco wall covering, single-glazed aluminum and wood windows (fixed and hopper). These are all generally in good condition. Exterior doors are in fair condition.

Interior finishes include glue up acoustical tile ceiling and storefront windows in good condition, doors, VCT flooring and casework in fair condition, and carpet flooring in good to fair condition.

| Recommendation | Category |
|---|---|
| • Upgrade the nurse's restroom to meet current accessibility code requirements. | 1 |
| • Replace and/or upgrade interior and exterior finishes in fair or poor condition. | 2 |
| • Provide flexible rooms for the purposes of counseling, meetings, pull-outs and offices. (Number of flexible rooms to be determined based on District's Educational Specifications) | 3 |

### 1.4. Library (Unit 7)

The library is housed in a modular building built in 1993. The size of the library meets CDE's minimum area guidelines per their current enrollment. Interior and exterior finishes are similar to modular classrooms as described in Section 1.1. Classrooms.

| Recommendation | Category |
|---|---|
| • Replace and/or upgrade interior and exterior finishes in fair or poor condition. | 2 |
| • Add a centrally-located, site-built library building. | 3 |

### 1.5. Restrooms

Student restrooms are spread throughout the campus. They are located in most classroom wings and the MUR. There are sufficient restrooms to meet current population requirements, as well as an adequate number of accessible restrooms per CPC and DSA regulations. Some restrooms, however, do not meet the current accessibility code requirements per CBC. Non-conformities include hand dryers exceeding the maximum allowable projection and obstacles, such as columns, blocking accessible stalls.

Interior finishes of the restrooms consist of gypsum board ceilings, ceramic tile wainscot up to 4 feet, gypsum board wall coverings, epoxy flooring and solid phenolic partitions; all are generally in good condition. Exterior doors are mainly in fair condition.

| Recommendation | Category |
|---|---|
| • Upgrade restrooms and/or restroom accessories to meet current accessibility code requirements. | 1 |
| • Replace and/or upgrade interior and exterior finishes in fair or poor condition. | 2 |

## 2. General Site

### 2.1. Site Accessibility

Path-of-travel issues, such as steep slopes, high thresholds, non-compliant landings at MUR exits and non-accessible routes to some restrooms were noticed throughout the campus. Additionally, interior/exterior drinking fountains throughout the campus and signage (where provided at classroom buildings) are not code compliant.

The condition of concrete paving varies throughout the site. Areas such as the path to the north parking lot and walkways between the site-built classroom buildings are in fair condition. Units one, four, and MUR entrance walkways are in poor condition.

| Recommendation | Category |
|---|---|
| • Perform a detailed Accessibility Survey to identify and address all barriers to accessibility per CBC and DSA provisions. (Drinking fountains, signage, restrooms, and path-of- travel). | 1 |
| • Replace and repair concrete paving where it is either a safety hazard, barrier to accessibility, or compromises long-term sustainability. | 1 |

### 2.2. Parking, Pick-Up/Drop-Off and Bus Loading

The campus does not have an adequate number of parking spaces per CDE guidelines; however, it has the required number of accessible spaces for the current enrollment population.

Pick-up/drop-off is combined with the bus loading area located in the north parking lot as well as the south parking lot. CDE recommends these areas be separated to allow students to enter and exit school grounds safely.

Asphalt paving in all three parking lots is generally in good condition.

| Recommendation | Category |
|---|---|
| • Provide separate pick-up/drop-off, bus loading, and parking areas. | 1 |

### 2.3. Hard-Court, Play Equipment Areas and Fields

There is one general hard-court play area, an athletic field, and three play equipment spaces for different grade levels. In order to meet CDE's design guidelines for current enrollment, two of the play equipment spaces should be expanded.

Surfaces include asphalt paving in fair to poor condition, cedar chips and poured rubber in playground areas in fair condition.

| Recommendation | Category |
|---|---|
| • Provide a separated kindergarten play area comprised of both turf and hard-court to allow for better supervision and safer outdoor environment. | 1 |
| • Replace and repair asphalt paving where it is either a safety hazard, accessibility barrier, or compromises long term sustainability | 1 |
| • Remove and replace cedar chips in play equipment areas with rubber surfacing for safety and accessibility purposes. | 1 |
| • Expand play areas as recommended in Table A-2. | 3 |

### 2.4 Covered Walkways

The roofing system on the covered walkways is built-up roofing, in fair condition. There are several roof-mounted conduits mounted on the walkway roofs throughout the campus.

| Recommendation | Category |
|---|---|
| • Remove roof-mounted conduits and re-roof. | **2** |

## Structural

The subject buildings were evaluated based on achieving a "life safety protection" performance objective. This performance objective represents minimum standards of seismic resistance generally recognized as providing adequate seismic risk protection to building occupants during large locally occurring earthquakes. The deficiencies identified in this report reflect the ASCE 31-03 Tier I results which were confirmed via rough code based analysis and/or ASCE 31-03 Tier II analysis as applicable.

**1. Classroom Building (Unit 1)**
Unit 1 is a single story wood framed classroom building constructed in 1953. Based on the ASCE Tier I analysis, Unit 1 has no deficiencies. No retrofits are required at this time.
**This building receives a subjective rating of 1[8]**

**2. Administration Building (Unit 2)**
Unit 2 is a single story wood framed administration building constructed in 1953 with an addition and remodel constructed in 1995. Based on the ASCE Tier I analysis, Unit 2 does not have any deficiencies. No retrofits are required at this time.
**This building receives a subjective rating of 1**

**3. Classroom Buildings (Units 3 and 4)**
Units 3 and 4 are single story wood framed classroom buildings constructed in 1954. Based on the ASCE Tier I analysis, Units 3 and 4 have one deficiency. The north and south walls have openings greater than 80% of the length which do not meet the 1.5 to 1 aspect ratio. No retrofits are required at this time.
**These buildings receive a subjective rating of 2**

**4. Classroom Building (Unit 5)**
Unit 5 is a single story wood framed classroom building constructed in 1959. Based on ASCE Tier I analysis, Unit 5 has one deficiency. The north and south walls have openings greater than 80% of the length which do not meet the 1.5 to 1 aspect ratio. No retrofits are required at this time.
**This building receives a subjective rating of 2**

**5. Multi-Use Building (Unit 6)**
The MUR is a single story steel building constructed in 1965 with approximately 4,962 square feet of floor area. This is one of four identical buildings located at different elementary school sites (Huff, Bubb, Slater, and Landels) and this report applies to all four conditions. The building consists of a wood framed roof diaphragm and steel wide flange beam and tube steel cantilever columns. The roof diaphragm is supported by the steel beams. The foundation system consists of perimeter continuous footings as well as spread footings beneath the tube steel columns.

[8] Refer to Structural division of the Methodology section of this report for system rating description.

The buildings were found to have varying conformance to the ASCE 31 guidelines. The greatest deficiency is the existing tube steel 8x8 cantilever columns which do not have the strength or the stiffness required to adequately resist the lateral loads expected to occur during an earthquake. This type of construction is also more flexible than other building types, and this flexibility can lead to large drifts during an earthquake, causing extensive structural and non-structural damage.

**This building receives a subjective rating of 3**

| Recommendation | Category |
|---|---|
| • Sheath selected solid exterior walls with plywood to create shear walls to achieve a life-safety performance level. | 1 |

For full text of structural report and applicable ASCE 31-03 Tier I checklist sheets, see Appendix 4.

## Mechanical

The following reports and comments are based on observations of the general condition of the mechanical systems and noticeable code issues resulting from an on-site visit, review of the existing record drawings, and feedback from District staff. Each existing HVAC system should be reviewed, tested, and upgraded to correct the possible problems due to faulty instruments, controls, and other installation issues.

### 1. HVAC Equipment.

The site was modernized in 2003, and the mechanical systems (HVAC equipment, ductwork, air distribution, and controls) were replaced at that time. The HVAC equipment is six years old. The typical HVAC equipment has a life expectancy of fifteen years if maintained per manufacturer, operation, and maintenance guidelines. The HVAC equipment has standard efficiency and does not meet the current Title 24 standards. There are three rooftop gas/electric package air-conditioning units serving the administration area. There are four rooftop heat pump units serving the MUR. The classrooms are served by a split system of a furnace and rooftop condensing unit, with a total of twenty split systems. For the IDF rooms, there is no air conditioning or ventilation. Each restroom is served by an exhaust fan; there are total of sixteen exhaust fans. Each modular building is served by a wall-mounted self-contained heat pump; there are total of nine heat pumps. The existing ductwork and air distribution appear to be in original condition; the ductwork and registers in the soffit do not span the entire wall, and two registers are too close together.

| Recommendation | Category |
|---|---|
| • At the end of life expectancy replace all HVAC units with high efficiency units to meet or exceed the current Title 24 requirements. High efficiency units will use less energy and save on energy costs. | **2** |
| • For the IDF rooms, provide a split system: cooling-only fan coil and roof mounted condensing unit, which will prevent overheating of telecommunication equipment. | **2** |
| • When replacing HVAC equipment, provide additional registers to insure proper air distribution. | **2** |
| • Replace HVAC equipment with new that will qualify for Green Building Certification, either LEED or CHPS. | **3** |

## 2. Energy Management System (EMS)

The existing Energy Management System (EMS) is manufactured by Alerton Technology. The existing EMS is Digital Direct Control, Windows-based with dial-up modem. The existing EMS is slow and hard to maintain because it fails frequently. Additionally, modular buildings are not tied to the current EMS system.

| Recommendation | Category |
|---|---|
| • Replace existing Energy Management System (EMS) with new EMS, which is BACNet compatible with internet access through District network, easy to use, and password protected. The new EMS will be faster, easier to maintain, and meet current technology changes. | **2** |
| • Modular buildings should be connected to the Energy Management System (EMS). | **2** |

## Plumbing and Site Utilities

This report and comments to follow are based on observations of the general condition of the plumbing systems and site utilities and noticeable code issues resulting from an on-site visit, review of the existing record drawings, and feedback from Mountain View Whisman School District staff.

### 1. Plumbing System

The plumbing fixtures in the buildings were replaced in the 2002 modernization project. Hose bibs at exterior walls of the buildings are without vacuum breaker devices. Plumbing equipment, such as the water heaters, are in good condition. Typical life expectancy of plumbing equipment can be between 5-10 years, depending on the type of equipment. Plumbing fixtures such as urinals and water closets are in good condition but do not meet current water conservation standards.

| Recommendation | Category |
|---|---|
| • Provide vacuum breaker devices for all exterior hose bibs to prevent backflow into the potable water system. | 1 |
| • Replace plumbing equipment at the end of life expectancy. | 2 |
| • Replace existing plumbing fixtures, i.e., faucets, urinals, water closets, with high efficiency plumbing fixtures that meet green building certification like LEED or CHPS to reduce water consumption (i.e., install waterless urinals and low-consumption flush toilets) | 3 |

### 2. Gas

The gas piping distribution system including underground gas main and branch lines were replaced in the 2002 modernization project. The site is supplied by one gas meter, without an earthquake-actuated gas shutoff valve, located at the northeast side of the administration building. The gas meter capacity is 3000 CFH with 0.25 psi gas pressure supply to each building.

Gas piping has a typical life expectancy of 25-30 years. The exterior steel gas piping runs underground and branches-off to each building with a riser at the exterior wall and a shut-off valve below grade. The interior steel gas piping is inside the building, below the roof and connects to the mechanical equipment in the building or on the roof.

| Recommendation | Category |
|---|---|
| • Provide an earthquake-actuated gas shutoff valve for the gas system to automatically shut off gas in the event of a seismic disturbance. | 1 |

### 3. Domestic Water

The site and building domestic water system were replaced in the 2002 modernization project with the exception of the domestic water system in the modular buildings. The site is supplied with one four inch water meter located north of the campus near Hansen Avenue.

The domestic water piping has a typical life expectancy of 25-30 years. The exterior copper domestic water piping runs underground and branches-off to each building with a riser at the exterior wall and a shut-off valve below grade. The interior copper domestic water piping is supported below the roof and connected to each plumbing fixture in the building.

| Recommendation | Category |
|---|---|
| • The domestic water system to the modular buildings is to be replaced when it is necessary due to leakage and age, which cause loss of water pressure. | 2 |

### 4. Sanitary Sewer

The site sanitary sewer system was not replaced in the modernization project. Typically, sanitary sewer systems have a life expectancy of 30-40 years depending on the piping material installed. In the 1960s and 1970s, sanitary main trunk lines were typically 6-inch vitrified clay pipe (VCP). Clay pipe has long been used for sanitary sewer mains and is still considered a competent product for this purpose. Depending on location, internal velocities, and adequate joints, VCP can have life expectancy up to 40 years.

| Recommendation | Category |
|---|---|
| • For the sanitary sewer system, either perform a video survey to assess the type of piping material and the percentage to be replaced, or replace all piping. Apply high velocity water jetters to the system prior to a video survey. | 2 |

### 5. Storm Drainage

Typically, storm drainage systems have a life expectancy of 30-40 years depending on the piping material installed. Typical storm drainage piping materials include reinforced concrete pipe (RCP), corrugated metal pipe (CMP), polyvinyl chloride pipe (PVC), and high-density polyethylene pipe (HDPE).

| Recommendation | Category |
|---|---|
| • For the storm drainage system, either perform a video survey to assess the type of piping material and the percentage to be replaced, or replace all piping. Apply high velocity water jetters to the system prior to a video survey. | 2 |

## Electrical

This report and comments to follow are based on observations of the general condition of the electrical systems and site utilities and noticeable code issue resulting from an on-site visit, review of the existing record drawings and feedback from Mountain View Whisman School District staff.

### 1. Power

A 2000A, 208/120V, 3 phase, 4 wire switchboard located outside of the MUR provides power to the campus. The switchboard was installed in 2002 and is in good condition. According to PG&E records, the current peak usage on the system is about 500 amps and there is a spare capacity of approximately 1,000 amps for future usage. The majority of the power distribution conduits were installed underground with some power and low voltage system conduits installed on the roof or above the covered walkway. Most of the areas have adequate power outlets for the current use. There are four (4) 20 amp circuits connected to each classroom. These were not used to the maximum capacity. All distribution and branch circuit panels are in good condition with spare capacity and breaker spaces for future need. Some of the electrical rooms were used for storage and violated the code requirement of 36" clearance in front of the panel board. Some of the power outlets in the modular buildings are not usable and require repair work.

| Recommendation | Category |
|---|---|
| • Maintain code required clearance in front of all electrical panel boards and equipment. | 1 |
| • Repair disconnected power outlets at modular buildings for proper function. | 1 |
| • Remove electrical distribution conduits from roof to under canopy or underground to avoid re-roofing problems. | 2 |

### 2. Lighting

The majority of the light fixtures are of fluorescent source with electronic ballast and T8 lamps. The lighting level is adequate for the task performed in each area and meets the requirement of current Title 24 efficiency standards. Interior fixtures are controlled by ceiling or wall mounted occupancy sensors with override switches. Exterior light fixtures are controlled by photocell and time clock via low voltage lighting control panel. The lenses of many exterior canopy lights have been browned out and require replacement. The parking lot does not have adequate lighting for pedestrian safety.

| Recommendation | Category |
|---|---|
| • Replace existing exterior light fixtures and add additional fixtures in the parking lot to improve campus safety. | 1 |
| • Connect exterior lighting to EMS system for energy saving and ease of campus control. | 2 |
| • Replace existing lighting fixtures with energy efficient lamps and ballasts of current technology to save operating costs. | 3 |

### 3. Fire Alarm

The campus is provided with a manual/automatic addressable fire alarm system with pull stations, smoke detectors, and notification devices. The existing FCI 7200 panel located in the administrative office is in working condition, but it is obsolete with no current state fire marshal listing. The visual and audio notification device coverage on the campus does not comply with current code.

| Recommendation | Category |
|---|---|
| • Replace existing fire alarm system with new network based addressable fire alarm system with adequate notification devices throughout the campus to meet the current code. | 1 |

### 4. Paging/Clock

Existing Bogen PA/Clock system located in the electrical room in Unit 1 provides for campus announcements, master clock, and bell schedule. The campus has good announcement coverage and the system is in good condition.

### 5. Security

Sonitrol Alarm provides a working, adequate security monitoring of the campus through audio motion sensor and door contacts. Sonitrol Alarm provides third-party monitoring and is hired by the District.

## Technology

These recommendations are based on the information obtained during the observation of the general condition of the schools and feedback from staff at Mountain View Whisman School District.

### 1. Structure Cabling

The station cabling in this school is a mix of old and new cable, some CAT5 and CAT5E, which were installed between seven and ten years ago. Most of the station cablings are installed in plastic wiremold on the walls. The station jacks are a mix of blocks and different style face plates. The cable labeling is a mix of styles, and some cables are not labeled. There are six strands of 62.5/125 multi-mode fiber from each IDF to the MDF. There are RG-11s from the MDF to each IDF and RG-6 to each end station in the building for broadband distribution. Overall, the structure cabling is in fair condition.

| Recommendation | Category |
|---|---|
| • Replace cabling to bring it up to current industry standards, in order to support the different applications (EMS, Video Safety, VoIP, web applications etc.). Recommendation is to upgrade the horizontal cabling to Category 6. | **3** |
| • Demolish and remove all abandoned cables. | **3** |
| • Upgrade the fiber backbone to the latest industry standards. | **3** |

### 2. IDF/MDF Environment

The MDF is located in a supply/storage room in the administration building. IDFs are typically located in the classroom, boiler/mechanical/electrical, or storage room in wall mounted rack or floor mounted 19" two post rack or wall mounted cabinet. Most locations are not easily accessible or have debris below or in front of the IDFs. Some rooms do not get filtered air, and there is a tremendous amount of dust and dirt everywhere. This will cause equipment fans to fail and device shut-down due to heat or the complete failure of a network switch. The failure of a network will cause that entire building to go off-line for an extended period until the device is replaced. Some rooms are cold and damp in the winter, which could cause for some oxidation in equipment, and very hot during the summer, which could cause equipment to shutdown due to heat overload. Some IDFs are not equipped with a UPS, grounding, and proper horizontal wire manager.

| Recommendation | Category |
|---|---|
| • Implement a solution that will safeguard the equipment located in the IDFs. | 2 |
| • Provide a clean, air-conditioned, and secure environment for network infrastructure, or relocate the IDF. | 2 |
| • Provide appropriate electrical, grounding, and UPS solutions in each IDF. | 2 |

### 3. Video Safety System

The District does not have a video safety system in place for this school.

| Recommendation | Category |
|---|---|
| • Implement a network based video safety solution that will monitor the exterior and problem areas of the campus. | 3 |

### 4. Data Network

The network equipment for the school is HP ProCurve. The switch is capable of supporting 10/100 network with gigabit uplinks. With the shift toward web-based applications, there is a need for increased Internet bandwidth. To provide wireless connectivity, some IDF are equipped with a buffalo wireless access point (AP).

| Recommendation | Category |
|---|---|
| • Replace the current switching solution with the District's new switching standard (HP ProCurve or equal) to support gigabit connection to the desktop. | 3 |
| • Replace the current wireless solution with an enterprise solution that allows the school to efficiently deploy, secure, and centrally manage the wireless LAN and meets current industry standard such as 802.11n. | 3 |

### 5. Video Distribution System

Most classrooms are equipped with coaxial cable for cable services. It seems that most classrooms are not using the service. Classrooms are typically equipped with a wall mounted TV with a VCR.

| Recommendation | Category |
|---|---|
| • Upgrade the current (coaxial cable) video distribution system to a network based system utilizing the newly installed cabling standard. With a network based solution, the classrooms can have access to educational video streaming services from the Internet to enhance the learning experience of students. | 3 |

### 6. Phone System

Phone system, sipXecs IP PBX, was installed during the summer of 2009. Phones are Polycom 321/331 and 450s.

### 7. Smart Classroom

Currently there is minimal integration of technology into the classroom. Some of the classrooms have components (projector, TV, VCR/DVD player) of a smart classroom and are currently using them.

| Recommendation | Category |
|---|---|
| • Develop a plan to implement the latest instructional technology in the classrooms to meet educational goals. | 3 |

# *Castro Elementary School*

**General Information**

| | |
|---|---|
| Address: | 505 Escuela Avenue<br>Mountain View, CA 94041 |
| Telephone: | 650.526.3781 |
| Grade Levels: | Preschool, K-5 |
| 2008/2009 Enrollment: | 656 Students |

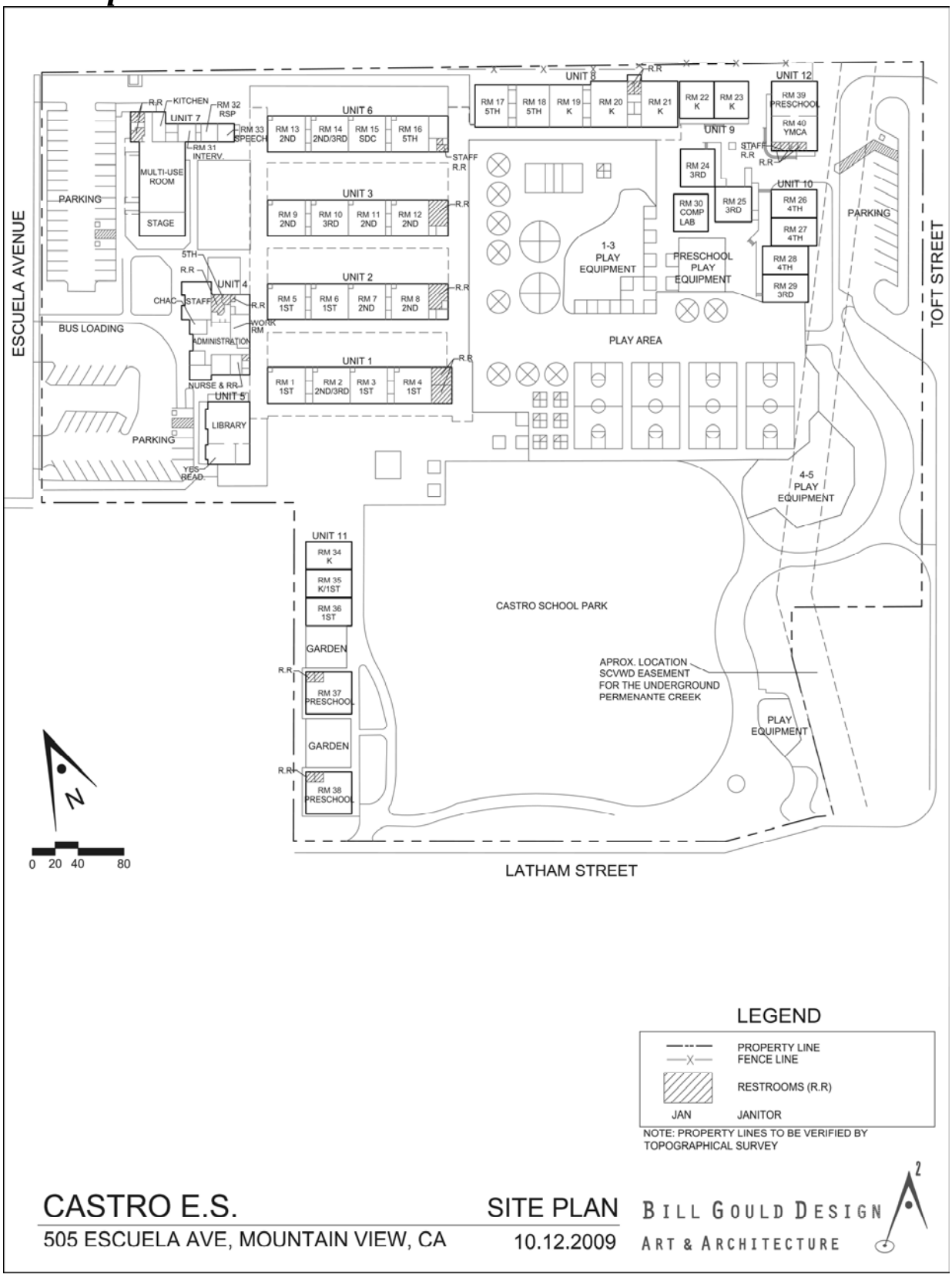
**Site Information:**

| | |
|---|---|
| Gross Acreage: | 9.25 Acres |
| Net Useable Acreage: | 8.45 Acres<br>*(For bldg const., due to creek easement)* |

**Building Information:**

| | |
|---|---|
| Original Construction: | 1947 |
| Additions: | 1950 – 2000 |
| Gross Building Area: | 53,577 sq. ft. |
| Site-built Construction: | 36,777 sq. ft. |
| Modular Construction : | 16,800 sq. ft. |

## *Site-Map*


ESCUELA AVENUE
TOFT STREET
LATHAM STREET
UNIT 1
UNIT 2
UNIT 3
UNIT 4
UNIT 5
UNIT 6
UNIT 7
UNIT 8
UNIT 9
UNIT 10
UNIT 11
UNIT 12
RM 1 1ST
RM 2 2ND/3RD
RM 3 1ST
RM 4 1ST
RM 5 1ST
RM 6 1ST
RM 7 2ND
RM 8 2ND
RM 9 2ND
RM 10 3RD
RM 11 2ND
RM 12 2ND
RM 13 2ND
RM 14 2ND/3RD
RM 15 SDC
RM 16 5TH
RM 17 5TH
RM 18 5TH
RM 19 K
RM 20 K
RM 21 K
RM 22 K
RM 23 K
RM 24 3RD
RM 25 3RD
RM 26 4TH
RM 27 4TH
RM 28 4TH
RM 29 3RD
RM 30 COMP LAB
RM 31 INTERV.
RM 32 RSP
RM 33 SPEECH
RM 34 K
RM 35 K/1ST
RM 36 1ST
RM 37 PRESCHOOL
RM 38 PRESCHOOL
RM 39 PRESCHOOL
RM 40 YMCA
KITCHEN
MULTI-USE ROOM
STAGE
PARKING
BUS LOADING
ADMINISTRATION
NURSE & RR
LIBRARY
YES READ
CHAC
STAFF
WORK RM
R.R
1-3 PLAY EQUIPMENT
PRESCHOOL PLAY EQUIPMENT
PLAY AREA
4-5 PLAY EQUIPMENT
PLAY EQUIPMENT
CASTRO SCHOOL PARK
GARDEN
GARDEN
APROX. LOCATION SCVWD EASEMENT FOR THE UNDERGROUND PERMENANTE CREEK
N
0 20 40 80
LEGEND
PROPERTY LINE
FENCE LINE
RESTROOMS (R.R)
JAN JANITOR
NOTE: PROPERTY LINES TO BE VERIFIED BY TOPOGRAPHICAL SURVEY
CASTRO E.S.
505 ESCUELA AVE, MOUNTAIN VIEW, CA
SITE PLAN
10.12.2009
BILL GOULD DESIGN
ART & ARCHITECTURE

## *Introduction*

Mariano Castro Elementary School resides in the heart of Mountain View and hosts a multi-lingual, multi-ethnic population of students. Castro's diverse student body represents a rich and varied cultural population with more than twenty-one languages spoken. One of Castro's special features is its strong sense of community, as well as housing one of Mountain View Whisman School District's Parent Choice magnet programs: Spanish English Dual Immersion.

The campus was originally constructed in 1947. Since the original construction, a number of modernization and addition projects have taken place starting in 1950 and continuing through 2000.

The site is 9.25 acres, though due to an easement required by Santa Clara Valley Water District for the underground Permanente Creek which runs on the east side of the property, the net usable space for building construction is about 8.45 acres. The buildings on this site are a combination of modular and site-built buildings which include classrooms, a library, Multi-Use Room (MUR) and an administration building.

## *Planning Process*

The assessment process included review of drawings, site visits and field verification meetings with District administrative staff and school committees, and finally, evaluation of collected data. Following the assessment process, recommendations were developed to improve the conditions and educational suitability of each site. These recommendations were classified based on categories described in "Basis of Assessment" in the Methodology section of this report. The existing conditions were evaluated utilizing a Good, Fair, Poor rating system also described in the Methodology section.

School specific data such as existing and recommended number of buildings, space areas, and maximum and allowable occupancies have been specified in Tables "A-1 Classroom Occupancy" and "A-2 Space Utilization."

Information provided is based on District enrollment, District policies, and most recent codes and guidelines in effect at the time of this report. As these factors change, recommendations will be revised and reflected in the SFIP. The Conditions and Needs Analysis Report herein will serve as a working tool guiding the District's future Facilities Improvement Plan.

## *Summary*

While potential deficiencies were identified throughout the campus within this study, in no instance were they of a serious enough nature to warrant immediate action. Individual scopes of work and their projected costs will be developed as part of the upcoming SFIP to be implemented in future modernization projects.

**Table A-1 Classroom Occupancy**

| Use | | Room # | Bldg Type /number of Modulars | Modular Year Built[1] | Working Capacity[2] (# students) | Existing Area (s.f) | Recommended Area (s.f.)[3] | Modular Bldg Area (s.f) | Other (s.f.) |
|---|---|---|---|---|---|---|---|---|---|
| **Kindergarten** | K | 19 | Site-built | | 20 | 1,075 | 1,350 | | |
| | K | 20 | Site-built | | 20 | 1,485 | 1,350 | | |
| | K | 21 | Site-built | | 20 | 1,485 | 1,350 | | |
| | K | 22 | Modular | 1987 | 20 | 960 | 1,350 | 960 | |
| | K | 23 | Modular | 1987 | 20 | 960 | 1,350 | 960 | |
| | K | 34 | Modular | 2000 | 20 | 960 | 1,350 | 960 | |
| **Sub Total** | | | **3** | | **120** | **6,925** | | **2,880** | |
| **Grades 1-3** | 1 | 1 | Site-built | | 20 | 1,025 | 960 | | |
| | 1 | 3 | Site-built | | 20 | 1,010 | 960 | | |
| | 1 | 4 | Site-built | | 20 | 1,010 | 960 | | |
| | 1 | 5 | Site-built | | 20 | 1,025 | 960 | | |
| | 1 | 6 | Site-built | | 20 | 1,010 | 960 | | |
| | 1 | 35 | Modular | 2000 | 20 | 960 | 960 | 960 | |
| | 1 | 36 | Modular | 2000 | 20 | 960 | 960 | 960 | |
| | 2 | 2 | Site-built | | 20 | 1,010 | 960 | | |
| | 2 | 7 | Site-built | | 20 | 1,010 | 960 | | |
| | 2 | 8 | Site-built | | 20 | 1,010 | 960 | | |
| | 2 | 9 | Site-built | | 20 | 1,025 | 960 | | |
| | 2 | 11 | Site-built | | 20 | 1,010 | 960 | | |
| | 2 | 12 | Site-built | | 20 | 1,010 | 960 | | |
| | 2 | 13 | Site-built | | 20 | 1,025 | 960 | | |
| | 2-3 | 14 | Site-built | | 20 | 1,010 | 960 | | |
| | 3 | 10 | Site-built | | 20 | 1,010 | 960 | | |
| | 3 | 24 | Modular | 1987 | 20 | 960 | 960 | 960 | |
| | 3 | 25 | Modular | 1987 | 20 | 960 | 960 | 960 | |
| | 3 | 29 | Modular | 1992 | 20 | 960 | 960 | 960 | |
| **Sub Total** | | | **5** | | **380** | **19,000** | | **4,800** | |
| **Grades 4-5** | 4 | 26 | Modular | 1992 | 30 | 960 | 960 | 960 | |
| | 4 | 27 | Modular | 1992 | 30 | 960 | 960 | 960 | |
| | 4 | 28 | Modular | 1992 | 30 | 960 | 960 | 960 | |
| | 5 | 16 | Site-built | | 30 | 1,010 | 960 | | |
| | 5 | 17 | Site-built | | 30 | 1,075 | 960 | | |
| | 5 | 18 | Site-built | | 30 | 1,075 | 960 | | |
| **Sub Total** | | | **3** | | **180** | **6,040** | | **2,880** | |
| **Special Programs/Pull Out** | | | | | | | | | |
| | SDC | 15 | Site-built | | 12 | 1,010 | 960 | | |
| | RSP | 32 | MUR | | | | 240 | | 220 |
| | Speech | 33 | MUR | | | | 200 | | 220 |
| | Intervention | 31 | MUR | | | | | | 235 |
| | Preschool | 37 | Modular | 1999 | | 1,440 | 1,350 | 1440 | |
| | Preschool | 38 | Modular | 1999 | | 1,440 | 1,350 | 1440 | |
| | YMCA preschoo | 39,40 | Modular | 2000 | | 2,400 | 1,350 | 2400 | |
| | Computer Lab | 30 | Modular | 1992 | | 960 | | 960 | |
| **Sub Total** | | | **4** | | **12** | **7,250** | | **6,240** | |
| | Restrooms, Storages, elec- not included in other bldgs | | | | | | | | 3,965 |
| **Other** | | | | | | | | | |
| **TOTALS** | | | **15** | | **692** | **39,215** | | **16,800** | |

Notes:

1- Certification plates as well as available construction documents were checked to verify modular DSA #s and year of installation.

2-Working Capacity (Class Size Reduction)=20 students/class for grades K-3 and 30 students/class for grades 4-5 based on schools current utilization.

3- Per Title 5, California Code of Regulations (CCR) for new schools (used as guidelines in this spreadsheet)

# Cooper School

**Table A-2 Space Utilization**

| Use | Building Component | Current Number of Classes/teaching stations | Number of Modulars | Building Component Area (s.f.) | Existing Area (s.f.) | Current Enrollment | Working Capacity[8] (# students) | Recommended Area (s.f.) | Notes |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |
| K | | 6 | 3 | | 6,925 | 133 | 120 | | |
| 1-3 | | 19 | 5 | | 19,000 | 357 | 380 | | |
| 4-5 | | 6 | 3 | | 6,040 | 166 | 180 | | |
| **K-5 Sub-Total:** | | **31** | **11** | | **31,965** | **656** | **680** | | |
| | | | | | | | | | |
| **Special Programs [5]** | | | | | | | | | |
| | | | | | | | | | |
| SDC | | 1 | | | 1,010 | 12 | 12 | 960 | |
| RSP | | 1 | | | 220 | | | 240 | Located in MUR, area not included in special program sub-total |
| Speech | | 1 | | | 220 | | | 200 | |
| Intervention | | 1 | | | 235 | | | | |
| Preschool | | 1 | 1 | | 1,440 | | | 995 | open space 1190 s.f., recommended space for current |
| Preschool | | 1 | 1 | | 1,440 | | | 995 | enrollment based on Licensing requirements. |
| YMCA Preschool | | 1 | 1 | | 2,400 | | | | |
| Computer Lab | | 1 | 1 | | 960 | | | | |
| | | | | | | | | | |
| **Special Program Sub-Total:** | | **8** | **4** | | **7,250** | | **12** | | |
| | | | | | | | | | |
| **Administration /staff Lounge/Work Room** | | | | | 4,080 | | | | |
| **Library[6]** | | | | | 1,387 | | | | |
| **Multi use[7]** | | | | | 4,930 | | | | |
| | Assembly | | | 2,420 | | | | 4,592 | area recommended to accommodate current enrollment population. To accommodate 1/3 student population 15*656/3=3,280 s.f. |
| | Other (restroom, food prep, storage,office, stage) | | | 1,835 | | | | | |
| | | | | | | | | | |
| **Restrooms,storages--not included in bldg areas** | | | | | 3,965 | | | | |
| | | | | | | | | | |
| **Sub-Total:** | | | **0** | | **14,362** | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| **Total** | | **39** | **15** | | **53,577** | **656** | **692** | | |

| General: | Existing | Recommended | |
|---|---|---|---|
| Property | 9.25 ac | | |
| Parking [1] | 75 stalls | 88 | stalls |
| Accessible Parking[2] | 5 stalls | 4 | stalls |

| Existing Buildings: | # of Bldgs | % of Total | Bldg Area (s.f.) |
|---|---|---|---|
| Total Building Area: | | | 53,577 |
| Modulars | 15 | 31% | 16,800 |
| Site-Built | | 69% | 36,777 |

| Play Areas: | Grade Level | Existing (s.f.) | CDE Recommended area(s.f.) [4] |
|---|---|---|---|
| Play Equipment Area | Pre-school | 1,870 | 2550 |
| | K | -- | 4,500 |
| | 1-3 | 4,710 | 12,800 |
| | 4-5 | 5,830 | 9,600 |
| Hard-Court | K | -- | 6,000 |
| | 1-5 | 54,800 | 59,000 |
| Fields/Turf | K | -- | 8,500 |
| | 1-5 | 86,400 | 151,200 |

| Students /Staff [3] | | |
|---|---|---|
| Current Enrollment | 656 | **"large"** size school per CDE |
| Staff | 40 | |

| | Existing | Required [9] |
|---|---|---|
| Restrooms : | # Toilets, # Urinals (U) | # Toilets, # Urinals (U) |
| Preschool[10] | 6 | 3 |
| Kinder | 2 | 6 |
| 1-5 | 31, 11U | 22, 4U |
| Staff [10] | 9 | 5, 1U |
| **Classrooms** | | |
| Undersize classes (< 945 s.f.) | | 3 |

**Notes:**

1- Number of parking stalls recommended per CDE guidelines based on number of teaching stations.

2- Number of accessible parking spaces required per CBC based on number of parking stalls

3- Current student enrollment and number of staff provided by school

4- Recommended area based on current enrollment per CDE guidelines.

5- Recommended area for special program classrooms are based on Title 5, California Code of Regulations (CCR) for new schools- used as guideline only

6- Recommended area is based on Title 5, CCR, for new middle schools, used as guideline only. Minimum 960 s.f. for elementary schools

7- Recommended Area is determined per California Building Code (CBC) based on current enrollment. Existing building maximum allowable occupants per CBC: for assembly = 345, for dinning = 161

8- Working Capacity (Class Size Reduction)=20 students/class for grades K-3 and 30 students/class for grades 4-5 based on school's current utilization.

9- Required number of toilets is calculated based on current enrollment & staff, per CPC and Child Care Liscensing requirements. Quantities may vary if calculated based on space areas and their Occupant Load Factor(OLF) as indicated in CPC.

10- There are 4 restrooms is the YMCA bldg of which 2 are dedicated to Preschools, 1 for staff and 1 for students. 2RRs in unit 6 are staff restrooms.

## *Assessment Summary*

Existing facilities were evaluated from functional, code compliance, architectural and engineering perspectives. Summary of the findings along with proposed recommendations for each division are provided herein.

# Architectural

### 1. Buildings

### 1.1. Classrooms[1]

There are thirty-one K-5 and eight special program[2] classrooms (including pre-school), fifteen of which are housed in modular buildings. Most classrooms meet the CDE area recommendations, with the exception of three kindergarten classrooms and the RSP program. Programs currently housed in undersize[3] classrooms include RSP, speech, and intervention.

The kindergarten and pre-school buildings are located on the northeast and southwest corners of the campus, distant from one another. Most kindergarten rooms do not contain interior restrooms.

- **Site-built Classrooms (Units 1, 2, 3, 6 and 8)**
  The site-built classroom buildings were originally constructed between 1947 and 1990. The modernization of these buildings with the exception of Unit 8 was conducted in 2000.

  The composition shingle roofing system on these buildings is in good condition in most buildings and in fair condition at Unit 8. The exterior stucco is in good to fair condition, the doors are in fair to poor condition, the wood sash, fixed single-glazed and aluminum hopper single-glazed (Unit 8) windows are in good condition, and the wood sash, hopper single-glazed windows in fair condition.

  The interior finishes, including glue up acoustical tile, are in good to fair condition, the tackable wall coverings are in good condition, the skip trowel gypsum wall board (Unit 8) is in good condition, and the VCT flooring is in fair to poor condition. Case work is in good to fair condition, though a few are placed in odd locations creating storage space that is inaccessible in some of the Unit 8 classrooms.

  The accessories such as whiteboards, chalk boards and screens are in good condition in most places and in fair condition in Unit 8. The curtains are in good condition; though, the tracks need to be adjusted closer to windows.

[1] Classrooms referred to herein are spaces where grade level and/or special programs are taught, regardless of room size.
[2] For a complete list and description of special programs refer to Appendix 3.
[3] Undersize classrooms refer to classrooms smaller than 945 s.f. regardless of their area requirement, refer to Tables A-1 and A-2 for specific area requirements.

- **Modular Classrooms (Units 9, 10,11 and 12)**
  The modular buildings at this site were built between 1987 and 2000. Therefore, the conditions of the finishes vary depending on the age of the building. Classroom 25 is one of the oldest buildings with an exposed exterior structural frame and stucco infill structure. The ramps on these buildings consist of concrete ramps with galvanized steel railings and built-up wood with wood railings.

  The standing seam metal roofing system on these buildings is in fair condition. Exterior finishes including T-111 siding, doors, aluminum tinted single-glazed fixed and hopper windows are all in fair to poor condition. Window screens are in poor condition in most buildings.

  The interior finishes include suspended acoustical tile ceiling, VCT flooring and casework, all in generally fair to poor condition. The tackable wall covering is in good to fair condition, and carpet flooring is in fair condition with the exception of Unit 11 which is in good condition. The FRP wall panels and sheet vinyl flooring in the preschool restrooms are in good condition.

  The accessories such as mini blinds, whiteboards, chalk boards, and screens are generally in fair condition.

| **Recommendation** | **Category[4]** |
|---|---|
| • Replace the kindergarten classrooms to meet area requirements. Provide interior restrooms, and form a kinder cluster. | **1** |
| • Replace and/or upgrade modular buildings installed prior to 1995. | **2** |
| • Replace and/or upgrade interior and exterior finishes in fair or poor condition. | **2** |
| • Provide flexible classrooms to accommodate space for special programs (science, art and social studies as well as after school programs). The number of flexible classrooms will be determined based on the District's Educational Specifications. | **3** |

### 1.2. Multi-Use Room (MUR – Unit 7)

The Multi-Use Room (MUR) was originally built in 1952. The kitchen and restrooms were added in 1993, and the building was modernized in 2000. It consists of an assembly area, kitchen, restrooms and three classrooms. The assembly area includes a permanent stage and is used as a servery, as well as, an eating space during lunch periods. It is also used for school assemblies, drama and after school programs. The classrooms house speech, RSP, and intervention programs.

[4] Refer to "Basis of Assessment" in the Methodology section of this report for category description.

The assembly open space is not large enough to accommodate the entire school population during assemblies or one-third of the school population during lunch periods. Additionally, one of the restrooms is not code compliant due to inadequate clear space.

The roofing system on this building is built up roofing and is in generally good condition. Exterior finishes consist of stucco and aluminum single-glazed fixed windows, both in good condition and doors in fair condition. The exterior doors are in fair condition.

The ceilings in this building include acoustical tiles which are in good to fair condition and gypsum board in the kitchen and restrooms which is in good condition. Wall coverings consist of full height ceramic tiles which are in good condition, FRP that is in fair condition and gypsum board in poor condition. The VCT flooring in the assembly area is in good to fair condition and in fair to poor condition in the hallways and kitchen areas. The sheet vinyl in the kitchen and ceramic tile in restrooms are both in good condition. The interior doors are in fair to poor condition and the casework is in fair condition.

The accessories such as window curtains are in fair condition, and the and built-in tables and benches are in good condition.

The specialty items in the assembly area include a permanent stage, curtain and accessible lift, all of which are in good condition. There is a non-acoustic operable partition that is in fair condition. Other features, including the roll-up window and food service equipment, are all in good condition.

| Recommendation | Category |
|---|---|
| • Renovate the restrooms to meet current accessibility code requirements. | **1** |
| • Replace and/or upgrade interior and exterior finishes in fair or poor condition. | **2** |
| • Provide acoustical operable partition walls in MUR to allow concurrence of multiple functions. | **3** |
| • Expand MUR to provide a separate servery and accommodate the entire school population during assemblies and at least one-third of the school population during lunch periods. | **3** |

### 1.3. Administration (Unit 4)

The administration building was originally constructed in 1947 with additions and modernization conducted in 1992. The building is located near the main entrance of the campus and comprises of administration offices (four offices+ one conference room), staff lounge, work room, and a nurse's room.

There are sufficient restrooms to meet current staff population per CPC requirements. The main non-conformities in this building include an inaccessible pathway to the restrooms, inaccessible toilets (due to inadequate clear space), and inaccessible workstations and sinks.

The stucco exterior, as well as the exterior doors are in good condition. The single-glazed fixed and hopper windows are in good to fair condition, though some open unintentionally in windy situations.

Interior finishes include carpet, glue up acoustical tile and gypsum board ceilings, all of which are in good condition. The doors are in poor condition. The VCT flooring is in good to fair condition and, the ceramic tile and the wainscotting in fair to poor condition. The casework is in generally good condition with the exception of the work room where it is in poor condition.

Accessories such as mini blinds are generally in good to fair condition.

| Recommendation | Category |
|---|---|
| • Upgrade restrooms to meet current accessibility code requirements. | 1 |
| • Upgrade casework and sinks to meet current accessibility code requirements. | 1 |
| • Replace and/or upgrade interior and exterior finishes in fair or poor condition. | 2 |

### 1.4. Library (Unit 5)

The library was originally built in 1947 with addition and modernization projects conducted in 2000. The size of the library meets CDE's minimum area guidelines per current enrollment. Interior and exterior finishes in this building are generally in good condition, with the exception of the exterior doors and VCT flooring which are in fair condition.

| Recommendations | Category |
|---|---|
| • Replace and/or upgrade interior and exterior finishes in fair or poor condition. | 2 |

### 1.5 Restrooms

Student restrooms are located in most site-built classrooms wings and the MUR. There are sufficient restrooms to meet current student population requirements, as well as adequate number of accessible restrooms per CPC and DSA regulations; however, some restroom accessories do not meet current accessibility code requirements per CBC.

The exterior doors are in fair condition. The interior finishes consist of gypsum board ceilings and thickset ceramic tile up to a height of 4', both of which are in good to fair condition. The gypsum board wall covering above 4', is in fair to poor condition, while the epoxy flooring is in good condition.

| Recommendation | Category |
|---|---|
| • Upgrade restroom accessories to meet current accessibility code requirements. | 1 |
| • Replace and/or upgrade interior and exterior finishes in fair or poor condition. | 2 |

## 2. General Site

### 2.1. Site Accessibility

Path-of-travel issues such as high thresholds and second exit doors not leading to accessible paths were noticed throughout the campus. Additionally, interior/exterior drinking fountains and signage at most buildings are not code compliant.

The concrete paving at walkways is in fair to poor condition with the exception of the library and Unit 11 areas where it is in good condition.

| Recommendation | Category |
|---|---|
| • Perform a detailed Accessibility Survey to identify and address all barriers to accessibility per CBC and DSA provisions. (Drinking fountains, signage, restrooms, and path-of- travel). | 1 |
| • Replace and repair concrete paving where it is either a safety hazard, barrier to accessibility, or compromises long term sustainability. | 1 |

### 2.2. Parking, Pick-Up/Drop-Off and Bus Loading

The campus does not have an adequate number of parking spaces per CDE guidelines. However, it has the required number of accessible spaces for the current enrollment population. Dedicated spaces have not been provided for pick-up/drop-off and bus loading. Additionally Unit 11, which houses kindergarten and preschool classrooms, is distant from all drop-off areas.

The asphalt paving in all three parking lots is in fair to poor condition.

| Recommendation | Category |
|---|---|
| • Replace and repair asphalt paving where it is either a safety hazard, barrier to accessibility, or compromises long term sustainability. | 1 |
| • Provide separate pick-up/drop-off, bus loading, and parking areas. | |
| • Provide pick-up/drop-off area for preschools and kindergartens. | 1 |
| • Provide additional parking stalls (see Table A-2). | 3 |

### 2.3. Hard-Court, Play Equipment Areas and Fields

There is one general hard-court play area, an athletic field, and three play equipment spaces for preschool and grades 1-5. In order to meet Child Care licensing requirements and CDE's design guidelines for current enrollment, the hard-court area and all play equipment spaces should be expanded.

The play area surfaces include asphalt paving and tanbark, both of which are in fair condition. The poured rubber in the kinder playground is in good condition.

| Recommendation | Category |
|---|---|
| • Provide a separate kindergarten play area comprised of both turf and hard-court to allow for better supervision and safer outdoor environment. | **1** |
| • Replace and repair asphalt paving where it is either a safety hazard, barrier to accessibility, or compromises long term sustainability. | **1** |
| • Remove tanbark and replace with rubber surfacing for safety and accessibility purposes. | **1** |
| • Expand play areas as recommended in Table A-2. | **3** |

### 2.4. Covered Walkways

The roofing system on the covered walkways is built-up roofing which is in fair condition.

| Recommendation | Category |
|---|---|
| • Replace built-up roofing | **2** |

## Structural

The subject buildings were evaluated based on achieving a "life safety protection" performance objective. This performance objective represents minimum standards of seismic resistance generally recognized as providing adequate seismic risk protection to building occupants during large locally occurring earthquakes. The deficiencies identified in this report reflect the ASCE 31-03 Tier I results which were confirmed via rough code based analysis and/or ASCE 31-03 Tier II analysis as applicable.

**1. Classroom Buildings (Units 1, 2 and 3)**
Units 1, 2 and 3 are single story wood framed classroom buildings with an original construction date of 1947. Based on the ASCE Tier I analysis, these units have two deficiencies. First, the exterior walls in the transverse direction do not meet the shear stress check. Second, no information was found about the wood sill bolts.
**This building receives a subjective rating of 3[5]**

| Recommendation | Category |
|---|---|
| • Add plywood sheathing on the inside faces of the exterior walls in transverse directions with nailing at 3" o.c. | 1 |
| • Field verify the wood sill bolts and retrofit if sill bolts are missing or spaced at greater spacing than 4'-0" o.c. | 1 |

**2. Administration Building (Unit 4)**
Unit 4 is a single story wood framed administration building with an original construction date of 1947 and modernization date of 1992. Based on ASCE Tier I analysis, Unit 4 has one deficiency. The exterior walls in the transverse direction do not meet the shear stress check.
**This building receives a subjective rating of 3**

| Recommendation | Category |
|---|---|
| • Add plywood sheathing on the inside faces of the exterior walls in transverse directions with nailing at 3" o.c. | 1 |

**3. Library Building (Unit 5)**
Unit 5 is a single story wood framed library building with an original construction date of 1947 and modernization date of 2000. Based on ASCE Tier I analysis, Unit 5 has no deficiencies.
**This building receives a subjective rating of 1**

[5] Refer to "Structural" section of the Methodology for system rating description.

**4. Classroom Building (Unit 6)**

Unit 6 is a single story wood framed classroom building with an original construction date around 1950. No information was found on this building, but through visual inspection we evaluated it to be similar to Unit 1 on this campus. Based on the ASCE Tier I analysis, Unit 6 has two deficiencies. First, the exterior walls in the transverse direction do not meet the shear stress check. Second, no information was found about the wood sill bolts.

**This building receives a subjective rating of 3**

| Recommendation | Category |
|---|---|
| • Add plywood sheathing on the inside faces of the exterior walls in transverse directions with nailing at 3" o.c. | 1 |
| • Field verify the wood sill bolts and retrofit if sill bolts are missing or spaced at greater spading than 4'-0" o.c. | 1 |

**5. Multi-Use Building (MUR – Unit 7)**

Unit 7 is a single story wood, concrete and steel framed Multi-use building with an original construction date of 1952 which includes an addition with a construction date of 1993. Based on ASCE Tier I analysis, Unit 7 has one deficiency. The exterior wall in the longitudinal direction along the north side at the original construction does not meet the shear stress check.

**This building receives a subjective rating of 3**

| Recommendation | Category |
|---|---|
| • Add plywood sheathing on the inside face of the exterior wall in longitudinal direction along the north side at the original construction with nailing at 3" o.c. | 1 |

**6. Classroom Building (Unit 8)**

Unit 8 is a single story wood framed classroom building with an original construction date of 1990. Based on ASCE Tier I analysis, Unit 8 has no deficiencies.

**This building receives a subjective rating of 1**

For full text of structural report and applicable ASCE 31-03 Tier I checklist sheets, see Appendix 4.

## Mechanical

The following reports and comments are based on observations of the general condition of the mechanical systems and noticeable code issues resulting from an on-site visit, review of the existing record drawings and feedback from Mountain View Whisman School District staff. Each existing HVAC system should be reviewed, tested, and upgraded to correct the possible problems due to faulty instruments, controls, and other installation issues.

### 1. HVAC Equipment

The site was modernized in 2000 and the mechanical systems (HVAC equipment, ductwork, air distribution and controls) were replaced at that time. The HVAC equipment is nine years old. The typical life expectancy of HVAC equipment is fifteen years, if maintained per manufacturer, operation, and maintenance guidelines. The HVAC equipment has standard efficiency but does not meet current Title 24 standards.

The HVAC equipment consists of one roof top package unit serving the library. There are two roof top package units serving the MUR. Each classroom is served by a split system gas furnace and roof mounted condensing unit; there are total of twenty-one split systems. For the IDF rooms, there is no air conditioning and no ventilation. Each restroom is served by an exhaust fan with a total of thirteen exhaust fans. The kitchen area is served by one exhaust hood. Each modular building is served by a wall mounted self contained heat pump. The existing ductwork and air distribution appear to be in original condition, ductwork and registers are in ceiling, walls or soffits.

| Recommendation | Category |
|---|---|
| • At the end of life expectancy replace all HVAC units with high efficiency units to meet or exceed the current Title 24 requirements. High efficiency units will use less energy and save on energy costs. | **2** |
| • For the IDF rooms, provide a split system: cooling-only fan coil and roof mounted condensing unit, which will prevent overheating of telecommunication equipment. | **2** |
| • Due to leakage, dust and age, it is recommended to replace all ductwork with new ductwork when replacing HVAC units. | **2** |
| • Replace HVAC equipment with new that will qualify for Green Building Certification, either LEED or CHPS. | **3** |

**2. Energy Management System (EMS)**

The existing Energy Management System (EMS) is manufactured by Alerton Technology. The existing EMS is digital direct control, Windows-based with dial-up modem. The existing EMS is slow and hard to maintain because it fails frequently. Additionally, modular buildings are not tied to the current EMS system.

| Recommendation | Category |
|---|---|
| • Replace existing Energy Management System (EMS) with new EMS, which is BACNet compatible with internet access through District network, easy to use, and password protected. The new EMS will be faster, easier to maintain, and meet current technology changes. | **2** |
| • Modular buildings should be connected to the Energy Management System (EMS). | **2** |

## Plumbing and Site Utilities

This report and comments to follow are based on observations of the general condition of the plumbing systems and site utilities and noticeable code issues resulting from an on-site visit, review of the existing record drawings and feedback from Mountain View Whisman School District staff.

### 1. Plumbing System

The plumbing fixtures in the building were replaced in the 2000 modernization project. Hose bibs at exterior wall of the buildings are without vacuum breaker device. Plumbing equipment, such as the water heater, is in good condition. Typical life expectancy of plumbing equipment can be between 5-10 years, depending on the type of equipment. Plumbing fixtures such as urinals and water closets are in good condition but do not meet current water conservation standards.

| Recommendation | Category |
|---|---|
| • Provide vacuum breaker devices for all exterior hose bibs to prevent backflow into the potable water system. | 1 |
| • Replace plumbing equipment at the end of life expectancy. | 2 |
| • Replace existing plumbing fixtures, i.e., faucets, urinals, water closets, with high efficiency plumbing fixtures that meet green building certification like LEED or CHPS to reduce water consumption (i.e., install waterless urinals and low-consumption flush toilets). | 3 |

### 2. Gas

The existing site underground gas main and distribution to classroom wing Units 1, 2, 3, 6, Library Unit 5 and MUR buildings were replaced in the 2000 modernization project. The existing gas main that supplies classroom wing Unit 8 was not replaced. The site is supplied with one gas meter, without an earthquake-actuated gas shutoff valve, located on the South side of the site. The gas meter capacity is 5000 CFH with 0.25 psi gas pressure supply to each building.

Gas piping has a typical life expectancy of 25-30 years. The exterior steel gas piping runs underground and branches-off to each building with a shut-off valve below grade. This steel gas pipe branch runs underground and branches-off to each classroom or building furnace closet located near the exterior wall. In the mechanical closets, the steel gas pipe is connected to the mechanical equipment.

| Recommendation | Category |
|---|---|
| • Provide an earthquake-actuated gas shutoff valve for the gas system to automatically shut off gas in the event of a seismic disturbance. | 1 |
| • Due to gas leakage and age, replace gas main to classroom wing Unit 8. | 2 |

### 3. Domestic Water

The domestic water system in the building and site main distribution to classroom wing Units 1, 2, 3 and 6, Library Unit 5 and MUR Unit 7 were replaced in the 2000 modernization project. The main supply to classroom wing Unit 8 was not replaced. Typical domestic mains constructed in the last 50 years were constructed of 4-inch diameter asbestos cement (AC) pipe. The use of AC pipe in potable water supply systems was common during the late 1950s up until the 1970s. Although no longer manufactured, a substantial amount of AC pipe remains in service in North America and Europe.

The pipe materials utilized on these smaller lines vary from solvent-weld polyvinyl chloride pipe (PVC) to ductile iron pipe (DIP) with the likelihood of limited amounts of copper and/or ferrous metal pipe used at or in the individual building services.

| Recommendation | Category |
|---|---|
| • The main domestic water to classroom wing Unit 8 is to be replaced when it is necessary due to leakage and age, which cause loss of water pressure. | **2** |

### 4. Sanitary Sewer

The site sanitary sewer system was not replaced in the modernization project. Typically, sanitary sewer systems have a life expectancy of 30-40 years depending on the piping material installed. In the 1960s and 1970s, sanitary main trunk lines were typically 6-inch vitrified clay pipe (VCP). Clay pipe has long been used for sanitary sewer mains and is still considered a competent product for this purpose. Depending on location, internal velocities, and adequate joints, VCP can have life expectancy up to 40 years.

| Recommendation | Category |
|---|---|
| • For the sanitary sewer system, either perform a video survey to assess the type of piping material and the percentage to be replaced, or replace all piping. Apply high velocity water jetters to the system prior to a video survey. | **2** |

### 5. Storm Drainage.

Typically, storm drainage systems have a life expectancy of 30-40 years depending on the piping material installed. Typical storm drainage piping materials include reinforced concrete pipe (RCP), corrugated metal pipe (CMP), polyvinyl chloride pipe (PVC), and high-density polyethylene pipe (HDPE).

| Recommendation | Category |
|---|---|
| • For the storm drainage system, either perform a video survey to assess the type of piping material and the percentage to be replaced, or replace all piping. Apply high velocity water jetters to the system prior to a video survey. | **2** |

## Electrical

This report and comments to follow are based on observations of the general condition of the electrical systems and site utilities and noticeable code issue resulting from an on-site visit, review of the existing record drawings and feedback from Mountain View Whisman School District staff.

### 1. Power

There are three electrical power services serving the campus. Switchboard #1 of 1200A, 208/120V, 3 phase, 4 wire located at north side of the campus serves power to the main campus. Switchboard #2 of 600A, 208/120V, 3 phase, 4 wire located at the northeast corner close to Toft Street serves the modular buildings. Switchboard #3 of 800A, 208/120V, 3 phase, 4 wire located at the south side of campus along Latham Street serves the day care modular buildings. All switchboards are in good condition. According to PG&E records, the current peak usage on the combined services is about 400 amps and there is a spare capacity of 800 amps approximately for future usage. The majority of the power distribution conduits were installed underground with some power and low voltage system conduits installed on roof or above the covered walkway. Most of the areas had adequate power outlets for the current use. There were four (4) 20 amp circuits connected to each classroom. These were not used to the maximum capacity. All distribution and branch circuit panels are in good condition with spare capacity and breaker spaces for future need. Some of the electrical rooms were used for storage and violated the code requirement of 36" clearance in front of the panel board. According to the users, some of the power outlets in the modular buildings were not usable and required repair work.

| Recommendation | Category |
|---|---|
| • Maintain code required clearance in front of all electrical panel boards and equipment. | 1 |
| • Repair disconnected power outlets at modular buildings for proper function. | 1 |
| • Remove electrical distribution conduits from roof to under canopy or underground to avoid re-roofing problems. | 3 |

### 2. Lighting

The majority of the light fixtures are of fluorescent source with electronic ballast and T8 lamps. The lighting level is adequate for the task performed in each area and meets the requirement of current Title 24 efficiency standards. Interior fixtures are controlled by ceiling or wall mounted occupancy with override switches. Exterior light fixtures are controlled by photocell and time clock via low voltage lighting control panel. The lenses of many exterior canopy lights have been browned out and require replacement. The parking lot does not have adequate lighting for pedestrian safety.

| Recommendation | Category |
|---|---|
| • Replace existing exterior light fixtures and add additional fixtures in the parking lot to improve campus safety. | 1 |
| • Connect exterior lighting to EMS system for energy saving and ease of campus control. | 2 |
| • Replace existing lighting fixtures with energy efficient lamps and ballasts of current technology to save operating costs. | 3 |

### 3. Fire Alarm

The campus is provided with a manual/automatic addressable fire alarm system with pull stations, smoke detectors, and notification devices. The existing FCI 7200 panel located in the administration office is in working condition but it is obsolete with no current state fire marshal listing. The visual and audio notification device coverage on the campus does not comply with current code.

| Recommendation | Category |
|---|---|
| Replace existing fire alarm system with new network based addressable fire alarm system with adequate notification devices throughout the campus to meet the current code. | 1 |

### 4. Paging/Clock

Existing Bogen PA/Clock system located in the electrical room in Unit 1 provides for campus announcements, master clock, and bell schedule. The campus has good announcement coverage and the system is in good condition.

### 5. Security

Sonitrol Alarm provides a working, adequate security monitoring of the campus through audio motion sensor and door contacts. Sonitrol Alarm provides third-party monitoring and is hired by the District.

## Technology

These recommendations are based on the information obtained during the observation of the general condition of the schools and feedback from staff at Mountain View Whisman School District.

### 1. Structure Cabling

The copper cabling in this school is CAT5 and was installed over nine years ago. Station cabling is installed in plastic wiremold on the walls, and station jacks are a mix of blocks and different style faceplates. Cable labeling is a mix of styles, and some cables are not labeled. There are six strands of 62.5/125 multi-mode fiber from each IDF to the MDF. There are RG-11s from the MDF to each IDF and RG-6 to each end station in the building for broadband distribution. Feedback from the District shows that they have or are working on a cabling standard. Overall, the structure cabling is in fair condition.

| Recommendation | Category |
|---|---|
| • Replace cabling to bring it up to current industry standards, in order to support the different applications (EMS, Video Safety, VoIP, web applications etc.). Recommendation is to upgrade the horizontal cabling to Category 6. | **3** |
| • Propose a plan to demolish and remove all abandoned cables. | **3** |
| • Upgrade the fiber backbone to the latest industry standards. | **3** |

### 2. IDF/MDF Environment

The MDF is located in a very small closet in the administration building. Due to the location of this unit, the MDF lacks the capability to add additional equipment. IDFs are typically located in the classroom, boiler/mechanical/electrical, or storage room and are dusty and dirty. Most locations are not easily accessible, and some locations do not get filtered air. This will cause equipment fans to fail and device shut-down due to heat or the complete failure of a network switch. The failure of a network will cause that entire building to go off-line for an extended period until the device is replaced. The MDF lacks the capability to add additional equipment due to the location. Some IDFs are not equipped with a UPS, grounding, and proper horizontal wire manager, and the wire managers are not used effectively creating a twisted and unmanageable wire system.

| Recommendation | Category |
|---|---|
| • Implement a solution that will safeguard the equipment located in the IDFs. | **2** |
| • Provide a clean, air-conditioned, and secure environment for network infrastructure, or relocate the IDF. | **2** |
| • Provide appropriate electrical, grounding, and UPS solutions in each IDF. | **2** |

### 3. Video Safety System

The District does not have a video safety system in place for this school.

| Recommendation | Category |
|---|---|
| • Implement a network based video safety solution that will monitor the exterior and problem areas of the campus. | 3 |

### 4. Data Network

The school is using old and out of warranty 3Com switches, Cisco switches, and other mini Ethernet switches. The vents for the fans on the switches are clogged with dust and debris, therefore reducing the life of each switch. With the shift toward web-based applications, there is a need for increased Internet bandwidth. To provide wireless connectivity, some IDFs are equipped with a buffalo wireless access point (AP).

| Recommendation | Category |
|---|---|
| • Replace the current switching solution with the District's new switching standard (HP Procurve or equal) to support gigabit connection to the desktop. | 3 |
| • Replace the current wireless solution with an enterprise solution that allows the school to efficiently deploy, secure, and centrally manage the wireless LAN and meets the current industry standard of 802.11n. | 3 |

### 5. Video Distribution System

Most classrooms are equipped with coaxial cable for cable services. It seems that most classrooms are not using the service. Classrooms are typically equipped with a wall mounted TV with a VCR.

| Recommendation | Category |
|---|---|
| • Upgrade the current (coaxial cable) video distribution system to a network based system utilizing the newly installed cabling standard. With a network based solution, the classroom can have access to educational video streaming services from the Internet to enhance the learning experience of students. | 3 |

**6. Phone System**

The phone system, sipXecs IP PBX, was installed during the summer of 2009. Phones are Polycom 321/331 and 450s.

**7. Smart Classroom**

Currently there is minimal integration of technology into the classroom. Some of the classrooms have components (projector, TV, VCR/DVD player) of a smart classroom and are currently using them.

| Recommendation | Category |
|---|---|
| • Develop a plan to implement the latest instructional technology in the classrooms to meet educational goals. | 3 |

# *Cooper School*

(Action Day Primary Plus)

**General Information**

| | |
|---|---|
| Address: | 333 Eunice Avenue<br>Mountain View, CA 94043 |
| Telephone: | |
| Grade Levels: | Preschool |
| 2008/2009 Enrollment: | N/A |

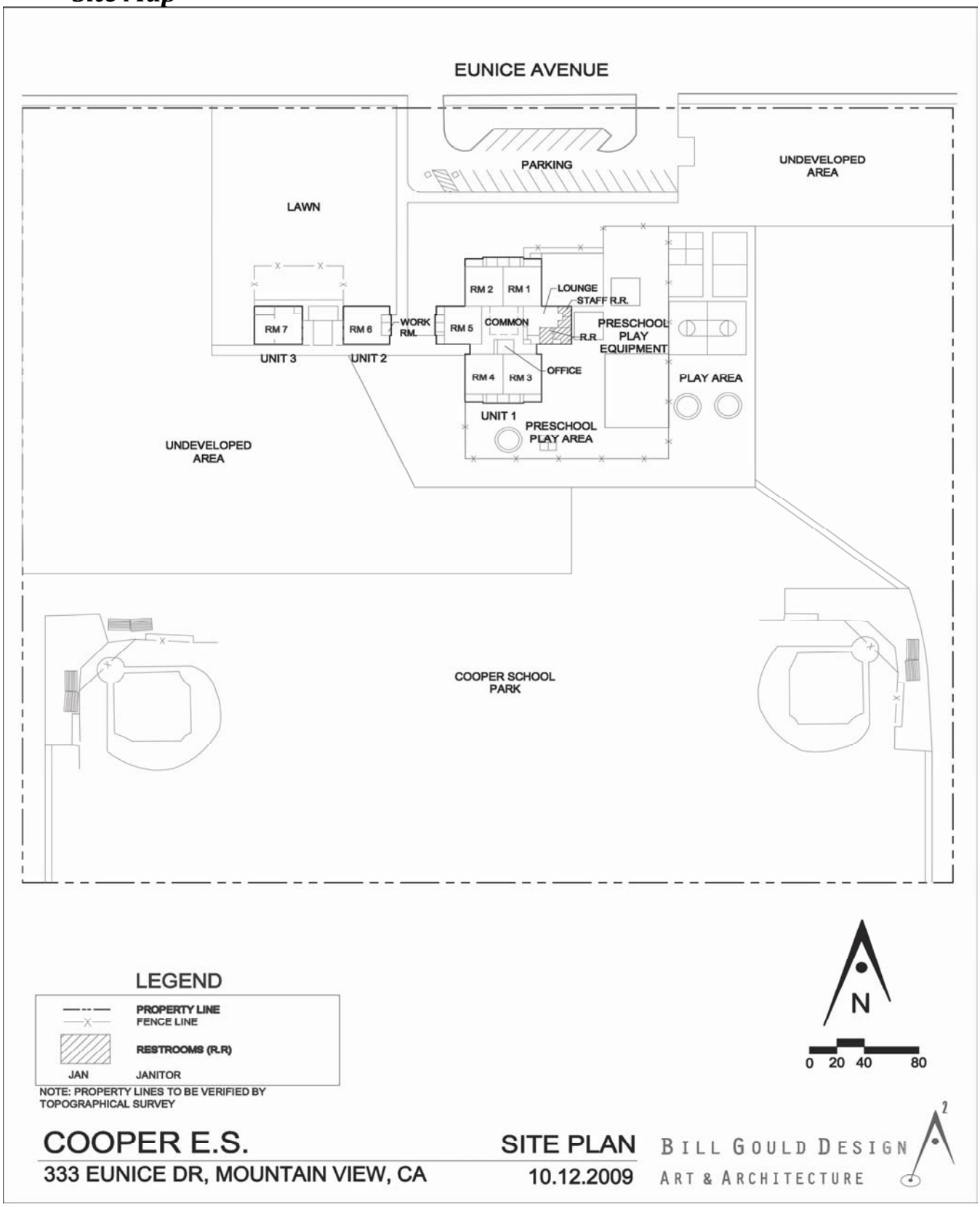
**Site Information:**

| | |
|---|---|
| Gross Acreage: | 9.5 Acres |
| Net Useable Acreage: | 9.5 Acres |

**Building Information:**

| | |
|---|---|
| Original Construction: | 1962 |
| Additions: | none |
| Gross Building Area: | 9,663 sq. ft. |
| Site-built Construction: | 9,663 sq. ft. |
| Modular Construction : | 0 sq. ft. |

## *Site Map*


EUNICE AVENUE
PARKING
UNDEVELOPED AREA
LAWN
RM 2
RM 1
LOUNGE
STAFF R.R.
RM 7
RM 6
WORK RM.
RM 5
COMMON
R.R.
PRESCHOOL PLAY EQUIPMENT
UNIT 3
UNIT 2
RM 4
RM 3
OFFICE
PLAY AREA
UNIT 1
PRESCHOOL PLAY AREA
UNDEVELOPED AREA
COOPER SCHOOL PARK
LEGEND
PROPERTY LINE
FENCE LINE
RESTROOMS (R.R)
JAN JANITOR
NOTE: PROPERTY LINES TO BE VERIFIED BY TOPOGRAPHICAL SURVEY
N
0 20 40 80
COOPER E.S.
333 EUNICE DR, MOUNTAIN VIEW, CA
SITE PLAN
10.12.2009
BILL GOULD DESIGN
ART & ARCHITECTURE

## *Introduction*

Cooper School is located on the south side of Mountain View, adjacent to a large city park. The site was originally built in 1962 with plans for future expansion; however, it was closed in 1976. The facility was reopened and leased to a private child care center, Action Day Primary Plus, in 1981 providing infant care, preschool and kindergarten programs.

The site is 9.5 acres and consists of three site-built buildings; the main building houses classrooms, restrooms, an office and staff areas and the other two buildings house one classroom each.

## *Planning Process*

The assessment process included a review of drawings, site visits and field verification, meetings with District administrative staff and school committees, and, finally, evaluation of collected data. Following the assessment process, recommendations were developed to improve the conditions and educational suitability of each site. These recommendations were classified based on categories described in "Basis of Assessment" in the Methodology section of this report. The existing conditions were evaluated following a Good, Fair, Poor rating system also described in the Methodology section.

School specific data such as existing and recommended number of buildings, space areas, and maximum and allowable occupancies have been specified in Tables "A-1 Classroom Occupancy and Space Utilization."

Information provided is based on District policies and most recent codes and guidelines in effect at the time of this report. As these factors change, recommendations will be revised and reflected in the SFIP. The Conditions and Needs Analysis Report herein will serve as a working tool guiding the District's future Facilities Improvement Plan.

## *Summary*

While potential deficiencies were identified throughout the campus within this study, in no instance were they of a serious enough nature to warrant immediate action. Individual scopes of work and their projected costs will be developed as part of the upcoming SFIP to be implemented in future modernization projects.

**Table A-1 Classroom Occupancy and Space Utilization**

| Use | Room Number | Current Number of Classes | Number of Modulars | Existing Area (s.f.) | Current Enroll. | Working Capacity[4] (# students) | Recommended Area (s.f.) | Notes |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| Classrooms | | | | | | | | |
| | 1 | 1 | | 860 | n/a | 20 | 960 | |
| | 2 | 1 | | 860 | n/a | 20 | 960 | |
| | 3 | 1 | | 875 | n/a | 20 | 960 | |
| | 4 | 1 | | 875 | n/a | 20 | 960 | All 7 classrooms are smaller than 960 s.f. |
| | 5 | 1 | | 815 | n/a | 27 | 960 | |
| | 6 | 1 | | 925 | n/a | 27 | 960 | |
| | 7 | 1 | | 950 | n/a | 27 | 960 | |
| | | | | | | | | |
| **Classrooms Sub-Total:** | | **7** | | **6,160** | | **161** | | |
| | | | | | | | | |
| **Administration /staff lounge/work room** | | | | 2,015 | | | | |
| | | | | | | | | |
| **Restrooms,storages--not included in bldg areas** | | | | 1,488 | | | | |
| | | | | | | | | |
| **Sub-Total:** | | | | **3,503** | | | | |
| | | | | | | | | |
| | | | | | | | | |
| **Total** | | **7** | **0** | **9,663** | **0** | **161** | **0** | |

| General: | Existing | Recommended | |
|---|---|---|---|
| Property | 9 5 acres | | |
| Parking [1] | 36 stalls | 16 | stalls |
| Accessible Parking[2] | 2 stalls | 1 | stalls |

| Existing Buildings: | # of Bldgs | % of Total | Bldg Area (s.f.) |
|---|---|---|---|
| Total Building Area: | | | 9,663 |
| Modulars | 0 | 0% | 0 |
| Site-built | | 100% | 9,663 |

| Play Areas: | Current Use | Existing(s.f.) | CDE Recommended area(s.f.) [3] |
|---|---|---|---|
| Play Equipment Area | Preschool | 3,585 | VARIES DEPENDING ON FUTURE USE |
| Hard-Court | Preschool | 14,175 | |
| | General | 22,647 | |
| Fields | General | 213,500 | |

| Students /Staff | | |
|---|---|---|
| Working Capacity | 161 | **"Small"** size school per CDE |
| Staff | n/a | |

| Restrooms : | Existing # Toilets, # Urinals (U) | Required [5] # Toilets, # Urinals (U) |
|---|---|---|
| Students | 8, 3U | 7, 1U |
| Staff | 3, 1U | 3,1U |

| Classrooms | | |
|---|---|---|
| Undersize classes (< 945 s.f.) | 6 | (all classrooms) |

**Notes:**

1- Number of parking stalls recommended per CDE guidelines based on current number of teaching stations.

2- Number of accessible parking spaces required per CBC based on number of parking stalls.

3- Recommended play area is to be determined based on future use of the campus.

4- Working Capacity (Class Size Reduction) is based on 20 students/class for grades K-3 and 30 students/class for grades 4-5.

5- Required number of fixtures is calculated based on space areas and their Occupant Load Factor (OLF) as indicated in CPC.

## *Assessment Summary*

Existing facilities were evaluated from functional, code compliance, architectural and engineering perspectives. Summary of the findings along with proposed recommendations of each division are provided herein.

# Architectural

### 1. Buildings

### 1.1. Classrooms[6]

There are seven site-built classrooms, none of which meet the CDE area recommendations for grade levels, nor do they have restrooms, which would make them inappropriate to be used as kindergarten classrooms. The entire facility is currently occupied by a private child care facility for infant care, preschool, and kindergarten.

- **Site-built Classrooms (Units 1, 2 and 3)**
  The site-built classroom buildings were originally constructed in 1962 and were never modernized.

  The roofing system on these buildings is steel roofing and it is generally in poor condition, rusting, with failing copings. Wood glu-lam support beams are not capped. The stucco exterior is in poor condition, and the wood and metal single-glazed storefront windows are not tempered and are in poor condition. Aluminum single-glazed windows were added to all units and are in fair to poor condition. Window-mounted air-conditioning units have been installed in most classrooms. The doors have non-compliant hardware and are in fair to poor condition.

  Interior finishes include acoustical tile, gypsum board walls and VCT flooring, all of which are in poor condition. The tackable wall covering and interior doors are in fair to poor condition, and the carpet flooring is in fair condition. The casework does not comply with accessibility requirements and is in poor condition.

  Accessories include whiteboards in fair condition and window blinds generally in poor condition. Classrooms 1 and 2 are separated by a fabric operable partition which is in poor condition. Classroom 4 contains some appliances, most of which are in poor condition.

| Recommendation | Category[7] |
|---|---|
| • Replace non-accessible hardware and casework to meet current accessibility code requirements. | 1 |
| • Replace and/or upgrade interior and exterior finishes in fair or poor condition. | 2 |

[6] Classrooms referred to herein are spaces where grade level and/or special programs are taught, regardless of room size.

[7] Refer to "Basis of Assessment" in the Methodology section of this report for category description.

| Recommendation | Category[8] |
|---|---|
| • Replace all accessories in fair or poor condition. | 2 |
| • Depending on future use of the campus, existing classrooms should be expanded and new should be added to meet CDE area guidelines. | 3 |

### 1.2. Multi-Use Room (N/A)

### 1.3. Administration/Staff Lounge (Unit 1)

Unit 1 contains a lounge area with a kitchen which is currently not being used for its intended purpose.

Interior finishes include gypsum board ceiling and walls, tackable walls and VCT flooring, all of which are in fair to poor condition. The casework is old painted wood with laminate counters and is in poor condition. The appliances in the kitchen are in fair to poor condition and have not always been installed in their intended location, i.e., refrigerator is installed under a hood originally meant for a range.

| Recommendation | Category |
|---|---|
| • Replace and/or upgrade interior and exterior finishes in fair or poor condition. | 2 |

### 1.4. Library (N/A)

### 1.5. Restrooms

Both student and staff restrooms are located in Unit 1, with interior entry for staff restrooms and exterior entry for student restrooms. None of the restrooms are accessible per current accessibility code requirements in the CBC. The restrooms have never been upgraded to meet accessibility requirements.

The exterior doors are in fair condition. Interior finishes include gypsum board ceilings, which are in fair condition, in the staff restrooms and poor condition in student restrooms, and gypsum board and FRP walls which are all in poor condition (no FRP in staff restrooms). The VCT flooring in the staff restrooms and the concrete flooring in the student restrooms are in poor condition. The solid phenolic toilet compartments are in poor condition.

| Recommendation | Category |
|---|---|
| • Upgrade restrooms to meet current accessibility code requirements. | 1 |

[8] Refer to "Basis of Assessment" in the Methodology section of this report for category description.

| | |
|---|---|
| • Replace and/or upgrade interior and exterior finishes in fair or poor condition. | **2** |

## 2. General Site

### 2.1. Site Accessibility

The site has not been upgraded for accessibility, so path-of-travel issues such as high carpet reducing strips, lack of clear space at doors, and second exit doors not leading to accessible paths are prevalent throughout the campus. Additionally, the drinking fountains are not code compliant and signage has not been provided.

The concrete paving at walkways is in fair to good condition.

| Recommendation | Category |
|---|---|
| • Perform a detailed Accessibility Survey to identify and address all barriers to accessibility per CBC and DSA provisions. (Drinking fountains, signage, restrooms, and path-of- travel). | **1** |
| • Replace and repair concrete paving where it is either a safety hazard, barrier to accessibility, or compromises long term sustainability. | **1** |

### 2.2. Parking, Pick-Up/Drop-Off and Bus Loading

There are no designated areas for pick-up/drop-off and bus loading to allow students to enter and exit school grounds safely.

The asphalt paving in the parking lot is in fair condition.

| Recommendation | Category |
|---|---|
| • Provide separate pick-up/drop-off, bus loading, and parking areas. | **1** |
| • Replace and repair asphalt paving where it is either a safety hazard, barrier to accessibility, or compromises long term sustainability. | **1** |

### 2.3. Hard-Court, Play Equipment Areas and Fields:

The play areas include an athletic field and one general hard-court play area divided into two sections: a general play area and a designated preschool area. The field and the general play area are currently not in use and have not been maintained. There are three play equipment areas within the fenced off preschool space.

The play area surfaces include asphalt paving which is in poor condition throughout, and tan bark at the play equipment areas.

| Recommendation | Category |
|---|---|
| • Replace and repair asphalt paving where it is either a safety hazard, barrier to accessibility, or compromises long term sustainability. | **1** |
| • Remove tanbark and replace with rubber surfacing for safety and accessibility purposes. | **1** |

## Structural

The subject buildings were evaluated based on achieving a "life safety protection" performance objective. This performance objective represents minimum standards of seismic resistance generally recognized as providing adequate seismic risk protection to building occupants during large locally occurring earthquakes. The deficiencies identified in this report reflect the ASCE 31-03 Tier I results which were confirmed via rough code based analysis and/or ASCE 31-03 Tier II analysis as applicable.

1. **Classroom Buildings (Units 1, 2 and 3)**
   Units 1, 2, and 3 are single story wood framed Classroom buildings with an original construction date of 1962. Based on the ASCE Tier I analysis, Units 1, 2, and 3 have no deficiencies. No retrofits are required at this time.
   **These buildings receive a subjective rating of 1**[9]

For full text of structural report and applicable ASCE 31-03 Tier I checklist sheets, see Appendix 4.

[9] Refer to "Structural" division of the Methodology section of this report for system rating description.

## Mechanical

The following reports and comments are based on observations of the general condition of the mechanical systems and noticeable code issues resulting from an on-site visit, review of the existing record drawings and feedback from Mountain View Whisman School District staff. Each existing HVAC system should be reviewed, tested, and upgraded to correct the possible problems due to faulty instruments, controls, and other installation issues.

### 1. HVAC Equipment

The site was originally constructed in 1962 and the mechanical systems (HVAC equipment, ductwork, air distribution and controls) have not been replaced since. The typical life expectancy of HVAC equipment is fifteen years, if maintained per manufacturer, operation, and maintenance guidelines. The HVAC equipment has standard efficiency but does not meet current Title 24 standards.

The existing HVAC equipment consists of heating-only gas furnace, there total of five gas furnaces that serve each classroom. Each classroom is served by cooling-only window mounted air-conditioning units; there are a total of eight air-conditioning units. For the IDF rooms, there is no air-conditioning or ventilation. Each restroom is served by an exhaust fan; there are a total of four exhaust fans. The existing ductwork and air distribution appears to be in original condition; ductwork and registers are in ceiling or walls.

| Recommendation | Category |
|---|---|
| • Replace all HVAC units with high efficiency units to meet or exceed the current Title 24 requirements. High efficiency units will use less energy and save on energy costs. | **2** |
| • For the IDF rooms, provide a split system: (cooling-only fan coil and roof mounted condensing unit), which will prevent overheating of telecommunication equipment. | **2** |
| • The ductwork and air distribution should be replaced due to leakage, dust and age. | **2** |
| • Replace HVAC equipment that will qualify for Green Building Certification, either LEED or CHPS. | **3** |

### 2. Energy Management System (EMS)

Currently, there is no Energy Management System on site. All HVAC Equipment have individual panels controlling the units. With no centralized Energy Management System (EMS), it's difficult to monitor equipment or easily detect when there is something wrong with the HVAC Equipment.

| Recommendation | Category |
|---|---|
| • Install new Energy Management System (EMS, which is BACNet compatible with internet access through District network, easy to use, and password protected. | **2** |

## Plumbing and Site Utilities

This report and comments to follow are based on observations of the general condition of the plumbing systems and site utilities and noticeable code issues resulting from an on-site visit, review of the existing record drawings and feedback from Mountain View Whisman School District staff.

### 1. Plumbing System

Hose bibs at exterior walls of the buildings are without vacuum breaker device. Plumbing equipment, such as water heaters, are in good condition. Typical life expectancy of plumbing equipment can be between 5-10 years, depending on the type of equipment. Plumbing fixtures such as urinals and water closets are in good condition but do not meet current water conservation standards.

| Recommendation | Category |
|---|---|
| • Provide vacuum breaker devices for all exterior hose bibs to prevent backflow into the potable water system. | 1 |
| • Replace plumbing equipment at the end of life expectancy. | 2 |
| • Replace existing plumbing fixtures, i.e., faucets, urinals, water closets, with high efficiency plumbing fixtures that meet green building certification like LEED or CHPS to reduce water consumption (i.e., install waterless urinals and low-consumption flush toilets). | 3 |

### 2. Gas

The gas piping distribution system, including underground gas main and branch lines, was replaced in 2007. The site is supplied with one gas meter with an earthquake-actuated gas shutoff valve, and is located at the Southwest side of the site. The gas meter capacity is 675 CFH with 0.25 psi gas pressure supply to each building.

Gas piping has a typical life expectancy of 25-30 years. The exterior polyethylene gas piping runs underground and branches-off to each building with shut-off valve above grade. Steel gas pipes either run on the exterior of the walls or are supported on the roof to mechanical closets.

### 3. Domestic Water

The site and building domestic water system were installed in 1962. The site is supplied with one 4” meter that is located on the North of the campus near Eunice Avenue.

The domestic water piping has a typical life expectancy of 25-30 years. The exterior 4” water main is of asbestos cement (AC) material which runs underground and connects to steel pipe branches that run under the building and connect to the plumbing fixtures.

| Recommendation | Category |
|---|---|
| • The site domestic water system is to be replaced together with the sanitary sewer system. | 2 |

**4. Sanitary Sewer**

The site and inside the building sanitary sewer system was installed in 1962. Typically, sanitary sewer systems have a life expectancy of 30-40 years depending on the piping material installed. In the 1960s and 1970s, sanitary main trunk lines were typically 6-inch vitrified clay pipe (VCP). Clay pipe has long been used for sanitary sewer mains and is still considered a competent product for this purpose. Depending on location, internal velocities and adequate joints, VCP can have life expectancy up to 40 years.

| Recommendation | Category |
|---|---|
| • For the sanitary sewer system, either perform a video survey to assess the type of piping material and the percentage to be replaced, or replace all piping. Apply high velocity water jetters to the system prior to a video survey. | 2 |

**5. Storm Drainage**

Typically, storm drainage systems have a life expectancy of 30-40 years depending on the piping material installed. Typical storm drainage piping materials include reinforced concrete pipe (RCP), corrugated metal pipe (CMP), polyvinyl chloride pipe (PVC), and high-density polyethylene pipe (HDPE).

| Recommendation | Category |
|---|---|
| • For the storm drainage system, either perform a video survey to assess the type of piping material and the percentage to be replaced, or replace all piping. Apply high velocity water jetters to the system prior to a video survey. | 2 |

## Electrical

This report and comments to follow are based on observations of the general condition of the electrical systems and site utilities and noticeable code issues resulting from an on-site visit, review of the existing record drawings and feedback from Mountain View Whisman School District staff.

### 1. Power

The existing electrical service is of a 400A, 240/120V, 1 phase, 3 wire switchboard located at the west side of the campus. The switchboard was installed in 1962 of original built and is in poor condition with no spare capacity for growth. The manufacture is obsolete with no spare parts available. All the branch circuit panels are of the same built with no spare capacity or breaker spaces for future connection. The majority of the power distribution conduits were installed underground. Some low voltage system conduits were installed on the roof or along exterior walls. Most of the areas do not have adequate power outlets or circuitry for the space used.

| Recommendation | Category |
|---|---|
| • Provide new electrical service and distribution system with capacity for future growth and HVAC system. | 1 |
| • Provide new underground low voltage system raceway system for campus backbone distribution. | 1 |

### 2. Lighting

The majority of the light fixtures are of fluorescent source. The type of lamps and ballasts were not observed. The lighting level is adequate for the task performed in each area but does not comply with the current Title 24 requirement. Interior fixtures are controlled by local wall mounted switches. Exterior light fixtures are controlled by relays and time clocks and do not provide adequate lighting for pedestrian safety.

| Recommendation | Category |
|---|---|
| • Replace existing exterior light fixtures and add additional fixtures in the parking lot to improve campus safety. | 1 |
| • Connect exterior lighting to EMS system for energy saving and ease of campus control. | 2 |
| • Replace existing lighting fixtures with energy efficient lamps and ballasts of current technology to save operating costs. | 3 |

### 3. Fire Alarm

The campus is provided with the original built manual fire alarm system with five exterior pull stations. The system is obsolete and does not comply with current code requirement.

| Recommendation | Category |
|---|---|
| • Provide a new network based addressable fire alarm system with adequate notification devices throughout the campus to meet the current code. | 1 |

### 4. Paging/Clock

There is no Paging/Clock system on site.

| Recommendation | Category |
|---|---|
| • Provide new paging/clock system per District standard for interior and exterior announcement coverage. | 1 |

### 5. Security

There is no security system on site.

| Recommendation | Category |
|---|---|
| • Provide new security system per District standard with door contact and motion sensor at areas with exterior doors, windows and central monitoring capability. | 2 |

## Technology

These recommendations are based on the information obtained during the observation of the general condition of the schools and feedback from staff at Mountain View Whisman School District.

### 1. Structure Cabling

There are 100 pairs of cable from the street to provide phone service. The school is leased to a third party, and no network based infrastructure has been installed.

| Recommendation | Category |
|---|---|
| • Replace cabling to bring it up to current industry standards, in order to support the different applications (EMS, Video Safety, VoIP, web applications, etc.). Recommendation is to upgrade the horizontal cabling to Category 6. | 3 |
| • Demolish and remove all abandoned cables. | 3 |
| • Upgrade the fiber backbone to the latest industry standards. | 3 |

### 2. IDF/MDF Environment

There is an MPOE, but an IDF/MDF could not be located.

| Recommendation | Category |
|---|---|
| • Provide a dedicated and secure room for the IDF for the modulars. | 2 |
| • Provide a clean, air-conditioned, and secure environment for network infrastructure or relocate the IDF. | 2 |
| • Provide appropriate electrical, grounding, and UPS solutions in each IDF. | 2 |

### 3. Video Safety System

The District does not have a video safety system in place for this school.

| Recommendation | Category |
|---|---|
| • Implement a network based video safety solution that will monitor the exterior and problem areas of the campus. | 3 |

### 4. Data Network

The site is leased to a daycare facility. The lease has installed a DSL line and a four port modem/router to provide internet connectivity for their staff. There is no indication that the District has installed any networking equipment for this facility.

| Recommendation | Category |
|---|---|
| • Provide a solution that meets the District new switching standard to support gigabit connections to the desktop. | 3 |
| • Provide a new enterprise wireless solution that allows the school to efficiently deploy, secure, and centrally manage the wireless LAN. | 3 |

### 5. Video Distribution System

There is no video distribution system on site.

| Recommendation | Category |
|---|---|
| • Provide a network based video distribution system utilizing the newly installed cabling standard. With a network based solution, the classroom can have access to educational video streaming services from the Internet to enhance the learning experience of students. | 3 |

### 6. Phone System

There is no phone system on site.

| Recommendation | Category |
|---|---|
| • Install and implement the District's current phone system, sipXecs IP PBX, at this school. | 3 |

**7. Smart Classroom**

Currently there is minimal integration of technology into the classroom. Some of the classrooms have components (projector, TV, VCR/DVD player) of a smart classroom and are currently using them.

| Recommendation | Category |
|---|---|
| • Develop a plan to implement the latest instructional technology in the classrooms to meet educational goals. | **3** |

# *Huff Elementary School*

**General Information**

.

| | |
|---|---|
| Address: | 253 Martens Avenue<br>Mountain View, CA 94041 |
| Telephone: | 650.526.3490 |
| Grade Levels: | K-5 |
| 2008/2009 Enrollment: | 510 Students |

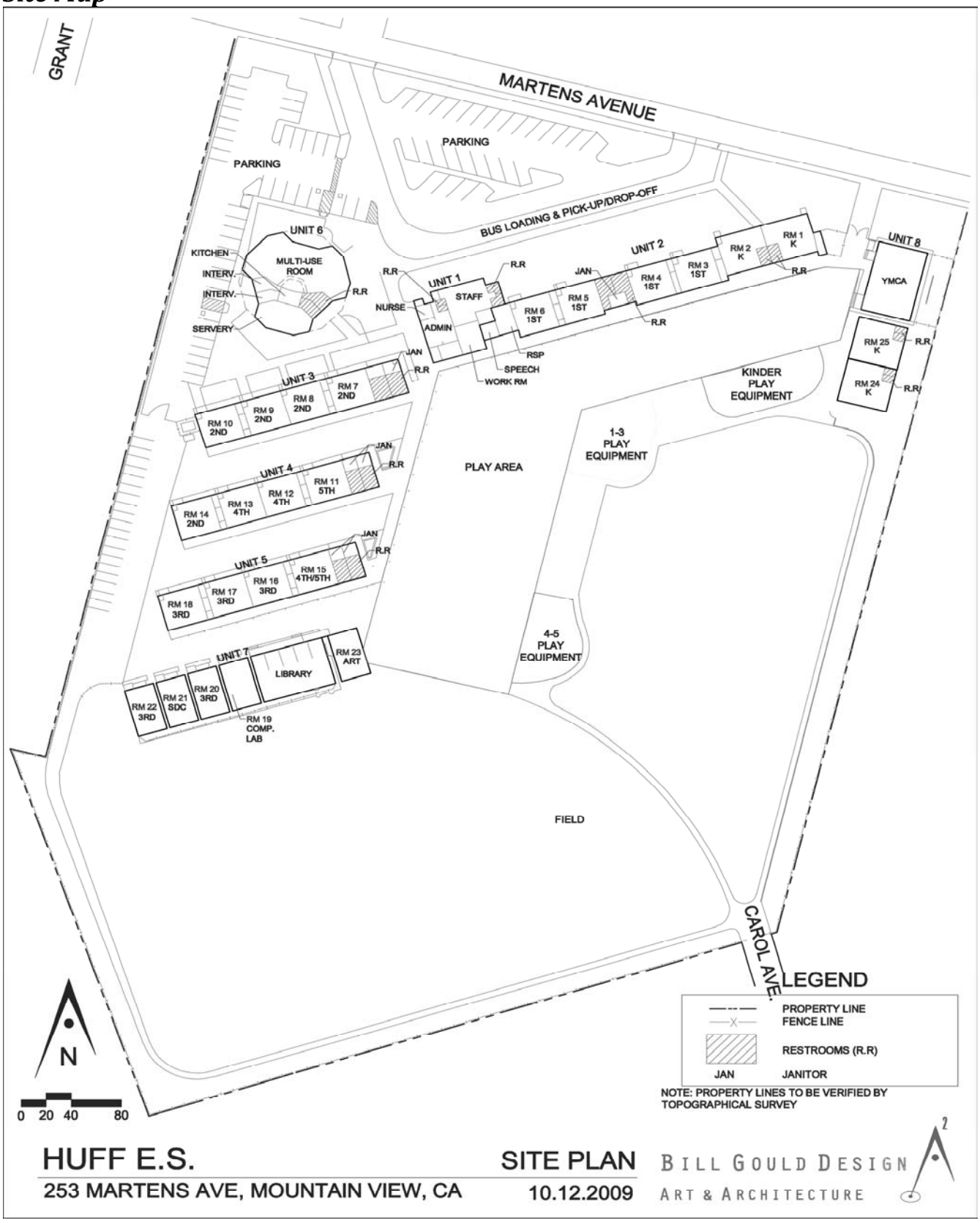
**Site Information:**

| | |
|---|---|
| Gross Acreage: | 10.93 Acres<br>(2 parcels, 8.93 Acres and 2.00 Acres) |
| Net Useable Acreage: | 10.93 Acres |

**Building Information:**

| | |
|---|---|
| Original Construction: | 1958 |
| Additions and Modernizations: | 1959 – 2007 |
| Gross Building Area: | 43,811 sq. ft. |
| Site-built Construction: | 31,331sq. ft. |
| Modular Construction : | 12,480 sq. ft. |

## *Site Map*


GRANT
MARTENS AVENUE
PARKING
PARKING
BUS LOADING & PICK-UP/DROP-OFF
UNIT 6
KITCHEN
INTERV.
INTERV.
SERVERY
MULTI-USE ROOM
R.R
UNIT 1
NURSE
STAFF
ADMIN
R.R
JAN
UNIT 2
RM 6 1ST
RM 5 1ST
RM 4 1ST
RM 3 1ST
RM 2 K
RM 1 K
R.R
UNIT 8
YMCA
RM 25 K
RM 24 K
R.R
JAN
R.R
RSP
SPEECH
WORK RM
UNIT 3
RM 10 2ND
RM 9 2ND
RM 8 2ND
RM 7 2ND
KINDER PLAY EQUIPMENT
1-3 PLAY EQUIPMENT
PLAY AREA
JAN
R.R
UNIT 4
RM 14 2ND
RM 13 4TH
RM 12 4TH
RM 11 5TH
JAN
R.R
UNIT 5
RM 18 3RD
RM 17 3RD
RM 16 3RD
RM 15 4TH/5TH
4-5 PLAY EQUIPMENT
UNIT 7
RM 22 3RD
RM 21 SDC
RM 20 3RD
LIBRARY
RM 23 ART
RM 19 COMP. LAB
FIELD
CAROL AVE.
N
0 20 40 80
LEGEND
PROPERTY LINE
FENCE LINE
RESTROOMS (R.R)
JAN JANITOR
NOTE: PROPERTY LINES TO BE VERIFIED BY TOPOGRAPHICAL SURVEY
HUFF E.S.
253 MARTENS AVE, MOUNTAIN VIEW, CA
SITE PLAN
10.12.2009
BILL GOULD DESIGN
ART & ARCHITECTURE
2

## *Introduction*

Frank L. Huff Elementary School is located near the southeast boundary of the city. Huff draws the majority of its students from the residential area surrounding the school. It was originally constructed in 1958. Since the original construction, a number of modernization and addition projects have taken place starting in 1959 and continuing through 2007. The facility was closed and partially leased out for a number of years and the campus re-opened as an elementary school in 1998 to help accommodate the Class Size Reduction (CSR) program.

The site is 10.93 acres and consists of site-built and modular buildings which are spread out into wings; buildings consist of a hexagonal shaped Multi Use Room (MUR), a wing of three modulars housing the YMCA daycare and two kindergarten classrooms, a classroom-administration wing, three general classroom wings, and finally a line of modulars housing classrooms, computer lab, art, and the library.

## *Planning Process*

The assessment process included review of drawings, site visits and field verifications, meetings with District administrative staff and school committees, and, finally, evaluation of collected data. Following the assessment process, recommendations were developed to improve the conditions and educational suitability of each site. These recommendations were classified based on categories described in "Basis of Assessment" in the Methodology section of this report. The existing conditions were evaluated utilizing a Good, Fair, Poor rating system also described in the Methodology section.

School specific data, such as existing and recommended number of buildings, space areas, and maximum and allowable occupancies, has been specified in Tables "A-1 Classroom Occupancy" and "A-2 Space Utilization."

Information provided is based on District enrollment, District policies and most recent codes and guidelines in effect at the time of this report. As these factors change, recommendations will be revised and reflected in the SFIP. The Conditions and Needs Analysis Report herein will serve as a working tool guiding the District's future Facilities Improvement Plan.

## *Summary*

While potential deficiencies were identified throughout the campus within this study, in no instance were they of a serious enough nature to warrant immediate action. Individual scopes of work and their projected costs will be developed as part of the upcoming SFIP to be implemented in future modernization projects.

**Table A-1 Classroom Occupancy**

| Use | | Room # | Bldg Type /number of Modulars | Modular Year Built[1] | Working Capacity[2] (# students) | Existing Area ( s.f) | Recommended Area (s.f.)[3] | Modular Bldg Area (s.f) | Other (s.f.) |
|---|---|---|---|---|---|---|---|---|---|
| **Kindergartens** | K | 1 | Site-built | | 20 | 1,265 | 1,350 | | |
| | K | 2 | Site-built | | 20 | 1,265 | 1,350 | | |
| | K | 24 | Modular | 2007 | 20 | 1,440 | 1,350 | 1,440 | |
| | K | 25 | Modular | 2007 | 20 | 1,440 | 1,350 | 1,440 | |
| **Sub Total:** | | | **2** | | **80** | **5,410** | **5,400** | **2,880** | |
| **Grades 1-3** | 1 | 3 | Site-built | | 20 | 985 | 960 | | |
| | 1 | 4 | Site-built | | 20 | 985 | 960 | | |
| | 1 | 5 | Site-built | | 20 | 985 | 960 | | |
| | 1 | 6 | Site-built | | 20 | 985 | 960 | | |
| | 2 | 7 | Site-built | | 20 | 985 | 960 | | |
| | 2 | 8 | Site-built | | 20 | 985 | 960 | | |
| | 2 | 9 | Site-built | | 20 | 985 | 960 | | |
| | 2 | 10 | Site-built | | 20 | 990 | 960 | | |
| | 2 | 14 | Site-built | | 20 | 990 | 960 | | |
| | 3 | 17 | Site-built | | 20 | 985 | 960 | | |
| | 3 | 18 | Site-built | | 20 | 990 | 960 | | |
| | 3 | 20 | Modular | 2003 | 20 | 960 | 960 | 960 | |
| | 3 | 22 | Modular | 2003 | 20 | 960 | 960 | 960 | |
| **Sub Total:** | | | **2** | | **260** | **12,770** | **12,480** | **1,920** | |
| **Grades 4-5** | 4 | 12 | Site-built | | 30 | 985 | 960 | | |
| | 4 | 13 | Site-built | | 30 | 985 | 960 | | |
| | 4/5 | 15 | Site-built | | 30 | 985 | 960 | | |
| | 5 | 11 | Site-built | | 30 | 985 | 960 | | |
| | 5 | 16 | Site-built | | 30 | 985 | 960 | | |
| **Sub Total** | | | **0** | | **150** | **4,925** | **4,800** | **0** | |
| | | | | | | | | | |
| **Special Programs - Pull Out** | | | | | | | | | |
| | YMCA | | Modular | 1998 | | 2,400 | | 2,400 | |
| | SDC | 21 | Modular | 2003 | 12 | 960 | | 960 | |
| | Art | 23 | Modular | 2007 | | 960 | | 960 | |
| | RSP | | Site-built | | | 365 | | | |
| | Speech | | Site-built | | | 155 | | | |
| | Intervention | | in MUR | | | | | | 285 |
| | Intervention | | in MUR | | | | | | 160 |
| | Computer lab | 19 | Modular | 2003 | | 960 | | 960 | |
| **Sub Total** | | | **4** | | **12** | **5,800** | | **5,280** | |
| **Other:** | | | | | | | | | |
| | Library | | Modular | 1998 | | | | 2,400 | |
| | Approx. area of restrooms, storages, elec - not included in classroom areas | | | | | | | | 4,654 |
| **Sub Total** | | | **1** | | | | | **2,400** | |
| **TOTAL** | | | **9** | | **502** | **28,905** | | **12,480** | |

Notes:

1- Certification plates as well as available construction documents were checked to verify modular DSA #s and year of installation.

2-Working Capacity (Class Size Reduction)=20 students/class for grades K-3 and 30 students/class for grades 4-5 based on schools current utilization.

3- Per Title 5, California Code of Regulations (CCR) for new schools. (used as guidelines in this spreadsheet)

**Table A-2 Space Utilization**

| Use | Building Component | Current Number of Classes/teaching stations | Number of Modulars | Building Component Area (s.f.) | Existing Area (s.f.) | Current Enroll. | Working Capacity[8] (# students) | Recommended Area (s.f.) | Notes |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |
| **K** | | 4 | 2 | | 5,410 | 84 | 80 | | |
| **1-3** | | 13 | 2 | | 12,770 | 262 | 260 | | |
| **4-5** | | 5 | | | 4,925 | 152 | 150 | | |
| | | | | | | | | | |
| **K-5 Sub-Total** | | **22** | **4** | | **23,105** | **498** | **490** | | |
| | | | | | | | | | |
| **Special Programs [5]** | | | | | | | | | |
| | | | | | | | | | |
| SDC | | 1 | 1 | | 960 | 12 | 12 | 960 | |
| YMCA | | 1 | 1 | | 2,400 | | | | |
| Art | | 1 | 1 | | 960 | | | | |
| RSP | | 1 | | | 365 | | | 240 | |
| Speech | | 1 | | | 155 | | | 200 | |
| Intervention | | 1 | | | 285 | | | | Located in MUR, area not included in special program sub-total |
| Intervention | | 1 | | | 160 | | | | |
| Computer Lab | | 1 | 1 | | 960 | | | 960 | |
| | | | | | | | | | |
| **Special Program Sub-Total** | | **8** | **4** | | **5,800** | **12** | **12** | | |
| | | | | | | | | | |
| **Administration** | | | | | 1,200 | | | | |
| **Staff lounge/work room** | | | | | 1,690 | | | | |
| **Library[6]** | | | **1** | | 2,400 | | | 960 | |
| **Multi use** | | | | | 4,962 | | | | |
| | Assembly [7] | | | 3,070 | | | | 3,570 | Area recommended to accommodate current enrollment population in assemblies. Area required to accommodate 1/3 of current enrollment during lunch = 2,550 s.f. |
| | Servery | | | 930 | | | | | |
| | Other (restroom, storage,office, kitchen) | | | 962 | | | | | |
| **Restrooms, storage--not included in bldg areas** | | | | | 4,654 | | | | |
| | | | | | | | | | |
| **Sub-Total** | | | **1** | | **14,906** | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| **Total** | | **30** | **9** | | **43,811** | **510** | **502** | | |

| General | Existing | Recommended | |
|---|---|---|---|
| Property | 10.93 ac | | |
| Parking [1] | 88 stalls | 68 | stalls |
| Accessible Parking[2] | 4 stalls | 3 | stalls |

| Existing Buildings | # of Bldgs | % of Total | Bldg Area (s.f.) |
|---|---|---|---|
| Total Building Area: | | | 43,811 |
| Modulars | 9 | 28% | 12,480 |
| Site-built | | 72% | 31,331 |

| Play Areas: | Grade Level | Existing (s.f.) | CDE Recommended area(s.f.) [4] |
|---|---|---|---|
| Play Equipment Area | K | 3,600 | 2,500 |
| | 1-3 | 3,980 | 9,600 |
| | 4-5 | 3,060 | 9,600 |
| Hard-Court | K | -- | 4,000 |
| | 1-5 | 47,280 | 50,000 |
| Fields/Turf | K | -- | 5,500 |
| | 1-5 | 182,250 | 151,200 |

| Students /Staff [3] | | |
|---|---|---|
| Current Enrollment | 510 | **"Medium"** size school per CDE |
| Staff | 48 | |

| | Existing | Required [9] |
|---|---|---|
| Restrooms : | # Toilets, # Urinals (U) | # Toilets, # Urinals(U) |
| Kinder | 10 | 4 |
| 1-5 | 38, 12U | 19, 3U |
| Staff | 4 | 5, 1U |

| Classrooms | |
|---|---|
| Undersize classes (< 945 s.f.) | 4 |

**Notes:**

1- Number of parking stalls recommended per CDE guidelines based on number of teaching stations.

2- Number of accessible parking spaces required per CBC based on number of parking stalls

3- Current student enrollment and number of staff provided by school

4- Recommended area based on current enrollment per CDE guidelines.

5- Recommended area for special program classrooms are based on Title 5, California Code of Regulations (CCR) for new schools- used as guideline only

6- Recommended area is based on Title 5, CCR, for new middle schools, used as guideline only. Minimum 960 s.f. for elementary schools

7- Recommended Area is determined per California Building Code (CBC) based on current enrollment. Max allowable occupants per CBC in the existing assembly area: for assemblies= 438 ,dining = 204

8-Working Capacity (Class Size Reduction)=20 students/class for grades K-3 and 30 students/class for grades 4-5 based on schools current utilization.

9- Required number of toilets is calculated based on current enrollment and staff per CPC. Quantities may vary if calculated based on space areas and their Occupant Load Factor (OLF) as indicated

## *Assessment Summary*

Existing facilities were evaluated from functional, code compliance, architectural and engineering perspectives. Summary of the findings along with proposed recommendations of each division are provided herein.

# Architectural

### 1. Buildings

### 1.1. Classrooms[1]

There are twenty-two K-5 and eight special program[2] classrooms, eight of which are housed in modular buildings. Most classrooms meet the CDE area recommendations, though two kindergarten classrooms are smaller than recommended. All kindergarten classrooms have interior restrooms. There are four undersize[3] classrooms which house two intervention programs, RSP, and Speech. The intervention programs are currently located in the MUR's IDF rooms.

- **Site-built Classrooms (Units 2, 3, 4 and 5)**
  The modernization project for the site-built classroom buildings was conducted in 2003. The roofing system on these buildings is composition shingle, and due to recent upgrades it is generally in good condition. Exterior finishes such as doors, wood sash single-glazed windows, and stucco wall coverings are all mainly in good condition.

  Interior finishes in these classrooms include glue up acoustical tile ceilings, tackable wall coverings, and casework generally in good condition, and VCT flooring which varies from poor to good depending on the classroom.

  Accessories such as whiteboards, chalk boards, and screens are in good condition, whereas curtain tracks are in fair condition and need to be adjusted closer to windows.

- **Modular Classrooms (Units 7 and 8)**
  The modular buildings at this site were built between 1998 and 2007; therefore, the conditions of the finishes vary depending on the age of the building.

  The roofing system on these buildings consists of metal standing seam and is in good condition in most places. Exterior finishes such as doors and T-111 siding are in fair condition in older buildings, and double glazed aluminum slider windows are generally in good condition, though window screens are in poor condition in most buildings.

[1] Classrooms referred to herein are spaces where grade level and/or special programs are taught, regardless of room size.
[2] For a complete list and description of special programs refer to Appendix 3.
[3] Undersize classrooms refer to classrooms smaller than 945 s.f. regardless of their area requirement, refer to Tables A-1 and A-2 for specific area requirements.

Interior finishes in these classrooms include suspended acoustical tile ceiling which are in poor condition in the older buildings, tackable wall covering and casework in fair to poor condition, and carpet flooring which varies from poor to good condition. Accessories such as mini blinds, whiteboards, chalk boards, and screens are generally in good condition.

| Recommendation | Category[4] |
|---|---|
| • Expand/Add two kindergarten classrooms to meet current area requirements and form a separated kindergarten cluster. | **1** |
| • Provide adequate size classrooms for the two intervention programs currently in IDF rooms (see Table A-2 for area recommendation). | **1** |
| • Replace and/or upgrade interior and exterior finishes in fair or poor condition. | **2** |
| • Provide flexible classrooms to accommodate space for special programs (science, art and social studies as well as after school programs). Number of flexible classrooms determined based on District's Educational Specifications. | **3** |

### 1.2. Multi-Use Room (MUR – Unit 6)

The Multi-Use Room is a hexagonal shaped building originally built in 1965 and modernized in 2002. The MUR modernization included interior and exterior finish upgrades, restroom renovations, and creation of a new kitchen and servery. The design of this building is similar to four other schools within the District. The MUR includes a servery, kitchen, an assembly area and restrooms. The assembly open space is not large enough to accommodate the entire school population during assemblies, although it is sufficient to accommodate one third of the school population during lunch periods. The servery is utilized as a lunch pass-through only. Main non-conformities in this building include non-compliant exiting (exterior arches are too close to exit doors and adequate landing space has not been provided), inadequate clear space at restrooms and housing of intervention classes in IDF rooms (see electrical notes).

The roofing system on this building is composition shingle. Due to recent upgrades, it is generally in good condition. Exterior finishes such as doors are in fair to poor condition, stucco wall coverings are in fair condition, and the wood single-glazed storefront windows are in poor condition.

Interior finishes include doors, gypsum board ceiling, gypsum board, and FRP wall panels in fair condition, and casework in poor condition. Flooring in this building consists of VCT in the assembly area which is in good condition and epoxy resin in the kitchen which is in fair condition.

Specialty items in the assembly area include a non-accessible removable stage, curtain, and a non-acoustic operable partition which are all in fair condition.

[4] Refer to "Basis of Assessment" in the Methodology section of this report for category description.

| Recommendation | Category |
|---|---|
| • Renovate MUR to provide code compliant exiting and restrooms. | 1 |
| • Replace and/or upgrade interior and exterior finishes in fair or poor condition. | 2 |
| • Provide acoustical operable walls in MUR to allow concurrence of multiple functions. | 3 |
| • Expand MUR to accommodate entire school population during assemblies. | 3 |

### 1.3. Administration (Unit 1)

Administration offices, the nurse office, staff workroom, and staff lounge are located in the administration-classroom wing. There are only two offices: the principal's office and another being utilized as a conference room. The staff lounge was added as part of the modernization to the administration offices in 2003; therefore, the interior and exterior finishes within this Unit are mainly in good condition.

There are not sufficient restrooms to meet current staff population requirements per CPC, and the nurse's office does not have a designated restroom.

| Recommendation | Category |
|---|---|
| • Provide designated student restroom for nurse's office. | 1 |
| • Add one staff restroom. | 1 |
| • Provide flexible rooms for purposes of counseling, meetings, pull-outs, and offices. Number of flexible rooms determined based on District's Educational Specifications. | 3 |

### 1.4. Library (Unit 7)

The library is housed in a modular building built in 1998. The size of the library meets CDE area guidelines per current school enrollment. Due to the age of this building, exterior finishes are in fair condition and interior finishes are mainly in poor condition. Furthermore, the amount of shelving is not adequate and the existing shelves are not properly anchored to the walls.

| Recommendation | Category |
|---|---|
| • Securely anchor shelves to the walls | 1 |
| • Replace and/or upgrade interior and exterior finishes in fair or poor condition. | 2 |
| • Remove existing modular library and add a centrally located site-built library building. | 3 |
| • Provide sufficient amount of shelving. | 3 |

### 1.5. Restrooms

Student restrooms are spread throughout the campus, located in most classroom wings and the MUR. Kindergarten and daycare classrooms have dedicated restrooms within their building. There are sufficient restrooms to meet current population requirements, as well as an adequate number of accessible restrooms per CPC and DSA regulations. However, certain aspects of the restrooms do not meet the current accessibility code requirements per CBC. Non-conformities include hand dryers exceeding maximum allowable projection and obstacles such as lavatories within clear path-of-travel to the accessible stalls.

Interior finishes of the restrooms consist of gypsum board ceilings generally in fair condition, epoxy flooring in poor to fair condition, and ceramic tile and gypsum board wall coverings mainly in good condition, although cracking has occurred in some places. Partitions are of solid phenolic in good condition.

| Recommendation | Category |
|---|---|
| • Upgrade restrooms and/or restroom accessories to meet current accessibility code requirements. | **1** |
| • Replace and/or upgrade interior and exterior finishes in fair or poor condition. | **2** |

## 2. General Site

### 2.1. Site Accessibility

Path-of-travel issues such as high thresholds, non-compliant entry and exits at the MUR, ramps and handrails at modular buildings were noticed throughout the campus. In addition, interior/exterior drinking fountains and signage throughout the site are not code compliant.

Concrete paving in general is in fair condition along the buildings and in poor condition along the edges of the north parking lot.

| Recommendation | Category |
|---|---|
| • Perform a detailed Accessibility Survey to identify and address all barriers to accessibility per CBC and DSA provisions. (Drinking fountains, signage, restrooms, and path-of- travel). | **1** |
| • Replace and repair concrete paving where it is either a safety hazard, barrier to accessibility, or compromises long term sustainability. | **1** |

### 2.2. Parking, Pick-Up/Drop-Off and Bus Loading

The campus has an adequate number of parking spaces per CDE guidelines and required number of accessible spaces for the current enrollment population.

Pick-up/drop-off is combined with the bus loading area located in the north parking lot. CDE recommends that these areas be separated to allow students to enter and exit school grounds safely.

| Recommendation | Category |
|---|---|
| • Provide separate pick-up/drop-off, bus loading, and parking areas. | 1 |

### 2.3. Hard-Court, Play Equipment Spaces and Fields

There is one general hard-court play area, an athletic field, and three play equipment spaces for different grade levels. In order to meet CDE's design guidelines for current enrollment, the hard-court and two play equipment spaces should be expanded.

Surfaces include asphalt paving generally in good condition and tanbark in playground areas in fair condition.

| Recommendation | Category |
|---|---|
| • Provide a separated kindergarten play area comprised of both turf and hard-court to allow for better supervision and safer outdoor environment. | 1 |
| • Remove tanbark and replace with rubber surfacing for safety and accessibility purposes. | 1 |
| • Expand play areas as recommended in Table A-2. | 3 |

### 2.4. Covered Walkways

The roofing system on the covered walkways is built-up roofing, in fair condition. There are several roof-mounted conduits mounted on walkway roofs throughout the campus.

| Recommendation | Category |
|---|---|
| • Remove roof mounted conduits and re-roof. | 2 |

## Structural

The subject buildings were evaluated based on achieving a "life safety protection" performance objective. This performance objective represents minimum standards of seismic resistance generally recognized as providing adequate seismic risk protection to building occupants during large locally occurring earthquakes. The deficiencies identified in this report reflect the ASCE 31-03 Tier I results which were confirmed via rough code based analysis and/or ASCE 31-03 Tier II analysis as applicable.

### 1. Administration Building (Unit 1)

The administration building is a single story wood-framed building with an original construction date of 1957 and remodel constructed in 2003. Based on the review of original drawings, it does not have any deficiencies and no retrofits are required at this time.

**This building receives a subjective rating of 1[5]**

### 2. Classroom Building (Unit 2)

This classroom building is a single story wood-framed building with an original construction date of 1957. Based on our review, there are two deficiencies. First, the north and south walls have openings greater than 80% of the length that do not meet the 1.5 to 1 aspect ratio; no retrofits are required at this time. Second, the shear walls along the north and south side of the building do not meet the shear stress check. The second deficiency will need to be remedied.

**This building receives a subjective rating of 3**

| Recommendation | Category |
|---|---|
| • Plywood sheathing should be added on the inside faces of the existing shear walls with nailing at 3" o.c. | 1 |

### 3. Classroom Buildings (Units 3 and 4)

These classroom buildings are single story wood-framed buildings with an original construction date of 1957. These units have one deficiency, the north and south walls have openings greater than 80% of the length that do not meet the 1.5 to 1 aspect ratio. No retrofits are required at this time.

**This building receives a subjective rating of 2**

### 4. Classroom Building (Unit 5)

This classroom building is a single story wood-framed building with original construction date of 1960. This Unit has one deficiency, the north and south walls have openings greater than 80% of the length that do not meet the 1.5 to 1 aspect ratio. No retrofits are required at this time.

**This building receives a subjective rating of 2**

[5] Refer to "Structural" division of the Methodology section of this report for system rating description.

**5. Multi-Use Building (Unit 6)**

The Multi-Use building (MUR) is a single story steel building constructed in1965/67 with approximately 4,962 square feet of floor area. This is one of four identical buildings located at different elementary school sites (Huff, Bubb, Slater, and Landels) and this report applies to all four conditions. The building consists of a wood framed roof diaphragm and steel wide flange beam and tube steel cantilever columns. The roof diaphragm is supported by the steel beams. The foundation system consists of perimeter continuous footings as well as spread footings beneath the tube steel columns.

The buildings were found to have varying conformance to the ASCE 31 guidelines. The greatest deficiency is the existing tube steel 8x8 cantilever columns that do not have the strength or the stiffness required to adequately resist the lateral loads expected to occur during an earthquake. This type of construction is also more flexible than other building types, and this flexibility can lead to large drifts during an earthquake, causing extensive structural and non-structural damage.

**This building receives a subjective rating of 3**

| Recommendation | Category |
|---|---|
| • Sheath selected solid exterior walls with plywood to create shear walls to achieve a life-safety performance level. | 1 |

For full text of structural report and applicable ASCE 31-03 Tier I checklist sheets, see Appendix 4.

## Mechanical

The following reports and comments are based on observations of the general condition of the mechanical systems and noticeable code issues resulting from an on-site visit, review of the existing record drawings, and feedback from Mountain View Whisman School District staff. Each existing HVAC system should be reviewed, tested, and upgraded to correct the possible problems due to faulty instruments, controls, and other installation issues.

### 1. HVAC Equipment

The site was modernized in 2003, and the mechanical systems (HVAC equipment, ductwork, air distribution, and controls) were replaced at that time. The HVAC equipment is six years old. The typical life expectancy of HVAC equipment is fifteen years, if maintained per manufacturer, operation, and maintenance guidelines. The HVAC equipment has standard efficiency but does not meet current Title 24 standards.

The existing HVAC equipment consists of two rooftop gas/electric package air conditioning units serving the administration area, four rooftop heat pump units serving the Multi-Use Room, and split systems (indoor gas fired furnaces and outdoor condensing units) serving each classroom. Each restroom is ventilated by an exhaust fan and each modular building is served by wall mounted self-contained heat pumps. Currently, there is no air conditioning for any of the IDF and MDF Rooms. In the administration, MUR, and classroom buildings, the ductwork appears to be in original condition per the last modernization. In the administration and MUR, the system appears to provide adequate air distribution. In the typical classroom, the ductwork in the soffit does not span the entire wall, and two registers are too close together.

| Recommendation | Category |
|---|---|
| • Replace all HVAC units at the end of life expectancy with high efficiency units to meet or exceed the current Title 24 requirements. High efficiency units will use less energy and save on energy costs. | **2** |
| • For the IDF rooms, provide a split system: cooling-only fan coil and roof mounted condensing unit, which will prevent overheating of telecommunication equipment. | **2** |
| • When replacing HVAC equipment, provide additional registers to insure proper air distribution. | **2** |
| • Replace HVAC equipment with new that will qualify for Green Building Certification, either LEED or CHPS. | **3** |

### 2. Energy Management System (EMS)

The existing Energy Management System (EMS) is manufactured by Alerton Technology. The existing EMS is Digital Direct Control, Windows-based with dial-up modem. The existing EMS is slow and hard to maintain because it fails frequently. Additionally, modular buildings are not currently tied to the EMS system.

| Recommendation | Category |
|---|---|
| • Replace existing Energy Management System (EMS) with new EMS, which is BACNet compatible with internet access through District network, easy to use, and password protected. The new EMS will be faster, easier to maintain, and meet current technology changes. | **2** |
| • Modular buildings should be connected to the Energy Management System (EMS). | **2** |

## Plumbing and Site Utilities

This report and comments to follow are based on observations of the general condition of the plumbing systems and site utilities and noticeable code issues resulting from an on-site visit, review of the existing record drawings and feedback from Mountain View Whisman School District staff.

### 1. Plumbing System

The plumbing fixtures in the building were replaced in the 2003 modernization project,. Hose bibs at the exterior walls of the buildings are without vacuum breaker device. Plumbing equipment, such as the water heater, are in good condition. Typical life expectancy of plumbing equipment can be between 5-10 years, depending on the type of equipment. Plumbing fixtures such as urinals and water closets are in good condition but do not meet current water conservation standards.

| Recommendation | Category |
|---|---|
| • Provide vacuum breaker devices for all exterior hose bibs to prevent backflow into the potable water system. | 1 |
| • Replace plumbing equipment at the end of life expectancy. | 2 |
| • Replace existing plumbing fixtures, i.e., faucets, urinals, water closets, with high efficiency plumbing fixtures that meet green building certification like LEED or CHPS to reduce water consumption (i.e., install waterless urinals and low-consumption flush toilets) | 3 |

### 2. Gas

The existing site underground gas main and distribution to each building were replaced in the 2003 modernization project. The site is supplied with one gas meter without earthquake-actuated gas shutoff valve and is located at the northeast corner of the administration building. The gas meter capacity is 3000 CFH with a medium gas pressure supply to each building.

Gas piping has a typical life expectancy of 25-30 years. The exterior steel gas piping runs on walkway roof and branches-off to each building with a shut-off valve and pressure regulator before it enters inside the building. The interior steel gas piping inside the building runs below the roof and connects to the mechanical equipment in the building. The gas piping on walkway roof and cross to a separate building or seismic joints are without flexible pipe joints.

| Recommendation | Category |
|---|---|
| • Provide flexible pipe joints to gas piping at cross and seismic joint locations. | 1 |
| • Provide an earthquake-actuated gas shutoff valve for the gas system to automatically shut off the gas in the event of a seismic disturbance. | 1 |
| • Replace black steel pipe installed outside with galvanized steel piping. | 3 |

**3. Domestic Water**

The building domestic Water system was replaced in the 2003 modernization project. The site domestic water system was not replaced. The site has one 4" water meter located east of the campus by Martens Avenue. The domestic water piping in the buildings are made of copper. Typical underground domestic mains constructed in the last 50 years were constructed of 4 inch diameter asbestos cement (AC) pipe. The use of AC pipe in potable water supply systems was common during the late 1950s up until the 1970s. Although no longer manufactured, a substantial amount of AC pipe remains in service in North America and Europe. The solvent-weld polyvinyl chloride pipe (PVC) connects from the AC underground domestic mains, to the copper domestic piping inside the building.

| Recommendation | Category |
|---|---|
| • The site domestic water system is to be replaced together with the sanitary sewer and storm drainage systems (see below). | 2 |

**4. Sanitary Sewer**

The site sanitary sewer system was not replaced in the modernization project. Typically, sanitary sewer systems have a life expectancy of 30-40 years depending on the piping material installed. In the 1960s and 1970s, sanitary main trunk lines were typically 6-inch vitrified clay pipe (VCP). Clay pipe has long been used for sanitary sewer mains and is still considered a competent product for this purpose. Depending on location, internal velocities, and adequate joints, VCP can have life expectancy up to 40 years.

| Recommendation | Category |
|---|---|
| • For the sanitary sewer system, either perform a video survey to assess the type of piping material and the percentage to be replaced, or replace all piping. Apply high velocity water jetters to the system prior to a video survey. | 2 |

**5. Storm Drainage**

Typically, storm drainage systems have a life expectancy of 30-40 years depending on the piping material installed. Typical storm drainage piping materials include reinforced concrete pipe (RCP), corrugated metal pipe (CMP), polyvinyl chloride pipe (PVC), and high-density polyethylene pipe (HDPE).

| Recommendation | Category |
|---|---|
| • For the storm drainage system, either perform a video survey to assess the type of piping material and the percentage to be replaced or replace all piping. Apply high velocity water jetters to the system prior to a video survey. | **2** |

## Electrical

This report and comments to follow are based on observations of the general condition of the electrical systems and site utilities and noticeable code issue resulting from an on-site visit, review of the existing record drawings and feedback from Mountain View Whisman School District staff.

### 1. Power

A 1600A, 208/120V, 3 phase, 4 wire switchboard located outside of the Unit 3 classroom building provides power to the campus. The switchboard was installed in 2003 and is in good condition. According to PG&E records, the current peak usage on the system is about 600 amps and there is a spare capacity of 700 amps for future usage.
The majority of the power distribution conduits were installed underground with a few power and low voltage system conduits installed on the roof or above the covered walkway. Most of the areas had adequate power outlets for the current use. There were four (4) 20amp circuits connected to each classroom. These were not used to the maximum capacity. All distribution and branch circuit panels are in good condition with spare capacity and breaker spaces for future need. Some of the electrical rooms were used for storage and violated the code requirement of 36" clearance in front of the panel board. Some of the power outlets in the modular classrooms were not usable and required repair work.

| Recommendation | Category |
|---|---|
| • Maintain code required clearance in front of all electrical panel boards and equipment. | 1 |
| • Repair disconnected power outlets at modular buildings for proper function. | 1 |
| • Remove electrical distribution conduits from roof to under canopy or underground to avoid re-roofing problems. | 3 |

### 2. Lighting

The majority of the light fixtures are of fluorescent source with electronic ballast and T8 lamps. The lighting level is adequate for the task performed in each area and meets the requirement of current Title 24 efficiency standards. Interior fixtures are controlled by ceiling or wall mounted occupancy sensors with override switches. Exterior light fixtures are controlled by photocell and time clock via low voltage lighting control panel. The lenses of many exterior canopy lights have been browned out and require replacement. The parking lot does not have adequate lighting for pedestrian safety.

| Recommendation | Category |
|---|---|
| • Replace existing exterior light fixtures and add additional fixtures in the parking lot to improve campus safety. | 1 |
| • Connect exterior lighting to EMS system for energy saving and ease of campus control. | 2 |
| • Replace existing lighting fixtures with energy efficient lamps and ballasts of current technology to save operating cost. | 3 |

### 3. Fire Alarm

The campus is provided with a manual/automatic addressable fire alarm system with pull stations, smoke detectors, and notification devices. The existing FCI 7200 panel located in the administration office is in working condition, but it is obsolete with no current state fire marshal listing. The visual and audio notification device coverage on the campus does not comply with current code.

| Recommendation | Category |
|---|---|
| • Replace existing fire alarm system with new network based addressable fire alarm system with adequate notification devices throughout the campus to meet the current code. | 1 |

### 4. Paging/Clock

Existing Bogen PA/Clock system located in the electrical room in Unit 1 provides for campus announcements, master clock, and bell schedule. The campus has good announcement coverage and the system is in good condition.

### 5. Security

Sonitrol Alarm provides a working, adequate security monitoring of the campus through audio motion sensor and door contacts. Sonitrol Alarm provides third-party monitoring and is hired by the District.

## Technology

These recommendations are based on the information obtained during the observation of the general condition of the schools and feedback from staff at Mountain View Whisman School District.

### 1. Structure Cabling

The copper cabling in this school is CAT5 and was installed over six years ago. Station cabling is installed in plastic wiremold on the walls, and station jacks are a mix of blocks and different style faceplates. Cable labeling is a mix of styles, and some cables are not labeled. There are six strands of 62.5/125 multi-mode fiber from each IDF to the MDF. There are RG-11s from the MDF to each IDF and RG-6 to each end station in the building for broadband distribution. Feedback from the District shows that they have or are working on a cabling standard. Overall, the structure cabling is in fair condition.

| Recommendation | Category |
|---|---|
| • Replace cabling to bring it up to current industry standards, in order to support the different applications (EMS, Video Safety, VoIP, web applications etc.). Recommendation is to upgrade the horizontal cabling to Category 6. | **3** |
| • Demolish and remove all abandoned cables. | **3** |
| • Upgrade the fiber backbone to the latest industry standards. | **3** |

### 2. IDF/MDF Environment

The MDF is located in the administration building. IDFs are typically located in the classroom, boiler/mechanical/electrical, or storage room and are dusty and dirty. Most locations are not easily accessible, and some locations do not get filtered air. This will cause equipment fans to fail and device shut-down due to heat or the complete failure of a network switch. The failure of a network will cause that entire building to go off-line for an extended period until the device is replaced. Some IDFs are not equipped with a UPS, grounding, and proper horizontal wire manager, and the wire managers are not used effectively, creating a twisted and unmanageable wire system.

| Recommendation | Category |
|---|---|
| • Implement a solution that will safeguard the equipment located in the IDFs. | **2** |
| • Provide a clean, air-conditioned, and secure environment for network infrastructure, or relocate the IDF. | **2** |
| • Provide appropriate electrical, grounding, and UPS solutions in each IDF. | **2** |

### 3. Video Safety System

The District does not have a video safety system in place for this school.

| Recommendation | Category |
|---|---|
| • Implement a network-based video safety solution that will monitor the exterior and problem areas of the campus. | 3 |

### 4. Data Network

The school is using old and out of warranty 3Com switches, Cisco switches, and other mini Ethernet switches. The vents for the fans on the switches are clogged with dust and debris, therefore reducing the life of each switch. With the shift toward web-based applications, there is a need for increased Internet bandwidth. To provide wireless connectivity, some IDFs are equipped with a buffalo wireless access point (AP).

| Recommendation | Category |
|---|---|
| • Replace the current switching solution with the District's new switching standard (HP Procurve or equal) to support Gigabit connection to the desktop. | 3 |
| • Replace the current wireless solution with an enterprise solution that allows the school to efficiently deploy, secure, and centrally manage the wireless LAN and meets current industry standard such as 802.11n. | 3 |

### 5. Video Distribution System

Most classrooms are equipped with coaxial cable for cable services. It seems that most classrooms are not using the service. Classrooms are typically equipped with a wall mounted TV with a VCR.

| Recommendation | Category |
|---|---|
| • Upgrade the current (coaxial cable) video distribution system to a network based system utilizing the newly installed cabling standard. With a network based solution, the classrooms can have access to educational video streaming services from the Internet to enhance the learning experience of students. | 3 |

### 6. Phone System

Phone system ,sipXecs IP PBX, was installed during the summer of 2009. Phones are Polycom 321/331 and 450s.

**7. Smart Classroom**

Currently there is minimal integration of technology into the classroom. Some of the classrooms have components (projector, TV, VCR/DVD player) of a smart classroom and are currently using them.

| Recommendation | Category |
|---|---|
| • Develop a plan to implement the latest instructional technology in the classrooms to meet educational goals. | **3** |

# *Landels Elementary School*

**General Information**

| | |
|---|---|
| Address: | 115 West Dana Street<br>Mountain View, CA 94041 |
| Telephone: | 650.903.6925 |
| Grade Levels: | K-5 |
| 2008/2009 Enrollment: | 516 Students |

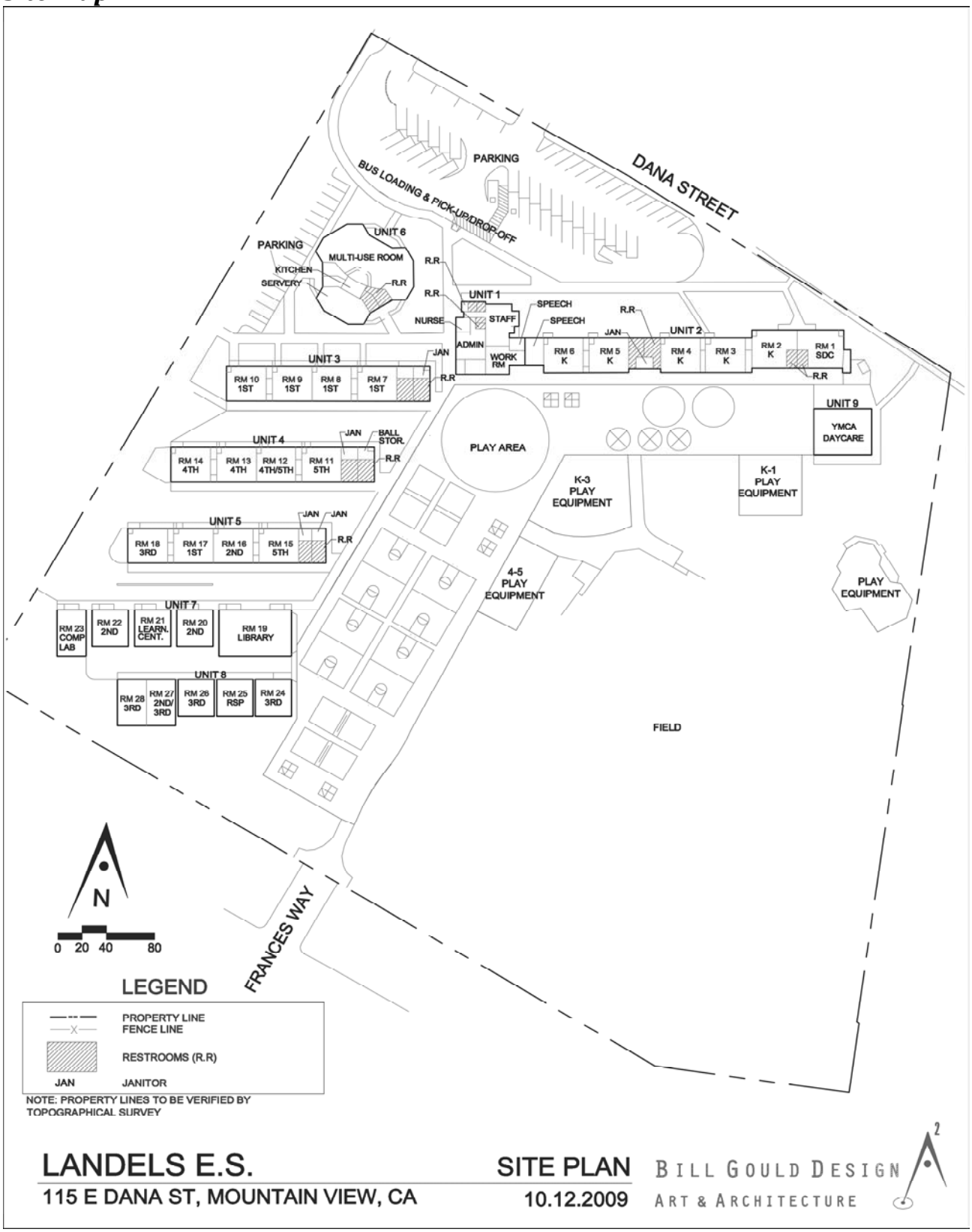
**Site Information:**

| | |
|---|---|
| Gross Acreage: | 10.16 Acres |
| Net Useable Acreage: | 10.16 Acres |

**Building Information:**

| | |
|---|---|
| Original Construction: | 1959 |
| Additions and Modernizations: | 1966 – 2003 |
| Gross Building Area: | 43,643 sq. ft. |
| Site-built Construction: | 12,960 sq. ft. |
| Modular Construction : | 30,683 sq. ft. |

## *Site Map*


DANA STREET
PARKING
BUS LOADING & PICK-UP/DROP-OFF
PARKING
UNIT 6
MULTI-USE ROOM
KITCHEN
SERVERY
R.R
R.R
R.R
UNIT 1
NURSE
STAFF
SPEECH
SPEECH
R.R
JAN
UNIT 2
ADMIN
WORK RM
RM 6 K
RM 5 K
RM 4 K
RM 3 K
RM 2 K
RM 1 SDC
R.R
UNIT 3
JAN
RM 10 1ST
RM 9 1ST
RM 8 1ST
RM 7 1ST
R.R
UNIT 9
YMCA DAYCARE
PLAY AREA
UNIT 4
JAN
BALL STOR.
RM 14 4TH
RM 13 4TH
RM 12 4TH/5TH
RM 11 5TH
R.R
K-3 PLAY EQUIPMENT
K-1 PLAY EQUIPMENT
UNIT 5
JAN
JAN
RM 18 3RD
RM 17 1ST
RM 16 2ND
RM 15 5TH
R.R
4-5 PLAY EQUIPMENT
PLAY EQUIPMENT
UNIT 7
RM 23 COMP LAB
RM 22 2ND
RM 21 LEARN. CENT.
RM 20 2ND
RM 19 LIBRARY
UNIT 8
RM 28 3RD
RM 27 2ND/ 3RD
RM 26 3RD
RM 25 RSP
RM 24 3RD
FIELD
N
0 20 40 80
FRANCES WAY
LEGEND
PROPERTY LINE
FENCE LINE
RESTROOMS (R.R)
JAN JANITOR
NOTE: PROPERTY LINES TO BE VERIFIED BY TOPOGRAPHICAL SURVEY
LANDELS E.S.
115 E DANA ST, MOUNTAIN VIEW, CA
SITE PLAN
10.12.2009
BILL GOULD DESIGN
ART & ARCHITECTURE
2

## *Introduction*

Landels Elementary School operates K-5 and is located near the downtown area of Mountain View. Landels students are from a diverse socioeconomic and ethnic population in the downtown area and from the military housing at the nearby Onizuka Air Force Base.

The campus was originally constructed in 1959 with addition and modernization projects taking place starting in 1966 through 2002.

The site is 10.16 acres and consists of site-built and modular buildings which are spread out into wings. The buildings consist of a hexagonal shaped Multi Use Room (MUR), a modular building housing YMCA daycare, a classroom-administration wing, three general classroom wings, and finally two rows of modulars housing classrooms, computer lab, learning center and the library.

## *Planning Process*

The assessment process included review of drawings, site visits and field verification, meetings with District administrative staff and school committees, and finally evaluation of collected data. Following the assessment process, recommendations were developed to improve the conditions and educational suitability of each site. These recommendations were classified based on categories described in "Basis of Assessment" in the Methodology section of this report. The existing conditions were evaluated following a Good, Fair, Poor rating system as described in the Methodology section.

School specific data such as existing and recommended number of buildings, areas, and maximum and allowable occupancies have been specified in Tables "A-1 Classroom Occupancy" and "A-2 Space Utilization."

Information provided is based on District enrollment, District policies and the most recent codes and guidelines in effect at the time of this report. As these factors change, recommendations will be revised and reflected in the SFIP. The Conditions and Needs Analysis Report herein will serve as a working tool guiding the District's future Facilities Improvement Plan.

## *Summary*

While potential deficiencies were identified throughout the campus within this study, in no instance were they of a serious enough nature to warrant immediate action. Individual scopes of work and their projected costs will be developed as part of the upcoming SFIP to be implemented in future modernization projects.

**Table A-1 Classroom Occupancy**

| Use | | Room # | Bldg Type /Number of Modulars | Modular Year Built[1] | Working Capacity[2] (# students) | Existing Area ( s.f) | Recommended Area (s.f.)[3] | Modular Bldg Area (s.f) | Other (s.f.) |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |
| **Kindergarten** | K | 2 | Site-built | | 20 | 1,265 | 1,350 | | |
| | K | 3 | Site-built | | 20 | 985 | 1,350 | | |
| | K | 4 | Site-built | | 20 | 985 | 1,350 | | |
| | K | 5 | Site-built | | 20 | 985 | 1,350 | | |
| | K | 6 | Site-built | | 20 | 985 | 1,350 | | |
| **Sub Total** | | | **0** | | **100** | **5,205** | | | |
| | | | | | | | | | |
| **Grades 1-3** | 1 | 7 | Site-built | | 20 | 985 | 960 | | |
| | 1 | 8 | Site-built | | 20 | 985 | 960 | | |
| | 1 | 9 | Site-built | | 20 | 985 | 960 | | |
| | 1 | 10 | Site-built | | 20 | 990 | 960 | | |
| | 1 | 17 | Site-built | | 20 | 985 | 960 | | |
| | 2 | 16 | Site-built | | 20 | 985 | 960 | | |
| | 2 | 20 | Modular | 1992 | 20 | 960 | 960 | 960 | |
| | 2 | 22 | Modular | 1992 | 20 | 960 | 960 | 960 | |
| | 2/3 | 27 | Modular | 1996 | 20 | 960 | 960 | 960 | |
| | 3 | 18 | Site-built | | 20 | 990 | 960 | | |
| | 3 | 24 | Modular | 1996 | 20 | 960 | 960 | 960 | |
| | 3 | 26 | Modular | 1996 | 20 | 960 | 960 | 960 | |
| | 3 | 28 | Modular | 1996 | 20 | 960 | 960 | 960 | |
| **Sub Total** | | | **6** | | **260** | **12,665** | | **5,760** | |
| | | | | | | | | | |
| **Grades 4-5** | 4 | 13 | Site-built | | 30 | 985 | 960 | | |
| | 4 | 14 | Site-built | | 30 | 990 | 960 | | |
| | 4/5 | 12 | Site-built | | 30 | 985 | 960 | | |
| | 5 | 11 | Site-built | | 30 | 985 | 960 | | |
| | 5 | 15 | Site-built | | 30 | 985 | 960 | | |
| **Sub Total** | | | **0** | | **150** | **4,930** | | | |
| | | | | | | | | | |
| **Special Programs-Pull Out** | | | | | | | | | |
| | Learning Center | 21 | Modular | 1992 | 0 | 960 | | | |
| | RSP | 25 | Modular | 1996 | 0 | 960 | | | |
| | SDC | 1 | Site-built | | 12 | 1,265 | | | |
| | Speech | B | Site-built | | *0* | 365 | | | |
| | YMCA (After school) | | Modular | 2003 | 0 | 1,920 | | | |
| | Comp. Lab | 23 | Modular | | 0 | 960 | | | |
| **Sub Total** | | | **4** | | **12** | **6,430** | | **4,800** | |
| | | | | | | | | | |
| | Library | 19 | Modular | | | | | 2400 | |
| | Approx. area of restrooms, storages, elec- not included in other bldgs | | | | | | | | 4956 |
| **Sub Total** | | | **1** | | | | | **2,400** | |
| | | | | | | | | | |
| | | | | | | | | | |
| **TOTAL** | | | **11** | | **522** | **29,230** | | **12,960** | |

Notes:

1- Certification plates as well as available construction documents were checked to verify modular DSA #s and year of installation.

2-Working Capacity (Class Size Reduction)=20 students/class for grades K-3 and 30 students/class for grades 4-5 based on schools current utilization.

3- Per Title 5, California Code of Regulations (CCR) for new schools. (used as guidelines in this spreadsheet)

**Table A-2 Space Utilization**

| Use | Building Component | Current Number of Classes/Teaching Stations | Number of Modulars | Building Component Area(s.f.) | Existing Area (s.f.) | Current Enrollment | Working Capacity[8] (# students) | Recommended Area (s.f.) | Notes |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |
| **K** | | 5 | | | 5,205 | 101 | 100 | | Current enroll. for each grade level has been estimated |
| **1-3** | | 13 | 6 | | 12,665 | 252 | 260 | | |
| **4-5** | | 5 | | | 4,930 | 151 | 150 | | |
| | | | | | | | | | |
| **K-5 Sub-Total:** | | **23** | **6** | | **22,800** | **504** | **510** | | |
| | | | | | | | | | |
| **Special Programs [5]** | | | | | | | | | |
| | | | | | | | | | |
| Learning Center | | 1 | 1 | | 960 | | | | |
| RSP | | 1 | 1 | | 960 | | | 240 | |
| SDC | | 1 | | | 1,265 | 12 | 12 | 960 | |
| Speech | | 1 | | | 365 | | | 200 | |
| YMCA- After school care | | 1 | 1 | | 1,920 | | | | |
| Computer Lab | | 1 | 1 | | 960 | | | 960 | |
| | | | | | | | | | |
| **Special Program Sub-Total:** | | **6** | **4** | | **6,430** | **12** | **12** | | |
| | | | | | | | | | |
| **Administration** | | | | | 1,200 | | | | |
| **Staff lounge/work room** | | | | | 895 | | | | |
| **Library[6]** | | | **1** | | 2,400 | | | 1,032 | |
| **Multi use** | | | | | 4,962 | | | | |
| | Assembly [7] | | | 3,070 | | | | 3,612 | Area recommended to accommodate current enrollment population in assemblies. Area required to accommodate 1/3 of current enrollment during lunch = 2,580 s.f. |
| | Food Servery | | | 930 | | | | | |
| | Other (restroom, storage,office, kitchen) | | | 962 | | | | | |
| | | | | | | | | | |
| **Restrooms,storages--not included in bldg areas** | | | | | 4,956 | | | | |
| | | | | | | | | | |
| **Sub-Total:** | | | **1** | | **14,413** | | | **0** | |
| | | | | | | | | | |
| **Total :** | | **29** | **11** | | **43,643** | **516** | **522** | | |

| **General:** | **Existing** | **Recommended** |
|---|---|---|
| Property | 10.16 ac | |
| Parking [1] | 68 stalls | 65 stalls |
| Accessible Parking[2] | 3 stalls | 3 stalls |

| **Existing Buildings:** | **# of Bldgs** | **% of Total** | **Bldg Area (s.f.)** |
|---|---|---|---|
| Total Building Area: | | | 43,643 |
| Modulars | 11 | 30% | 12,960 |
| Site-built | | 70% | 30,683 |

| **Play Areas:** | **Grade Level** | **Existing (s.f.)** | **CDE Recommended area(s.f.) [4]** |
|---|---|---|---|
| Play Equipment Area | K | 2,720 | 4,500 |
| | 1-3 | 4,750 | 9,600 |
| | 4-5 | 2,660 | 9,600 |
| Hard-Court | K | -- | 6,000 |
| | 1-5 | 54,725 | 50,000 |
| Fields/Turf | K | -- | 8,500 |
| | 1-5 | 168,300 | 151,200 |

| **Students /Staff [3]** | | |
|---|---|---|
| Current Enrollment | 516 | **"Medium"** size school per CDE |
| Staff | 45 | |

| **Restrooms :** | **Existing # Toilets, # Urinals(U)** | **Required [9] # Toilets, # Urinals (U)** |
|---|---|---|
| Kinder | 3 | 4 |
| 1-5 | 40 , 11 U | 17,3U |
| Staff | 4 | 5,1U |

| **Classrooms** | |
|---|---|
| Undersize classes (< 945 s.f.) | 1 |

**Notes:**

1- Number of parking stalls recommended per CDE guidelines based on number of 'teaching stations =number of classrooms '

2- Number of accessible parking spaces required per CBC based on number of parking stalls

3- Current student enrollment and number of staff provided by school

4- Play areas recommended based on current enrollment per CDE guidelines

5- Recommended area for special program classrooms are based on Title 5, California Code of Regulations (CCR) for new schools- used as guideline only

6- Recommended area is based on Title 5, CCR, for new middle schools, used as guideline only. Minimum 960 s.f. for elementary schools

7- Recommended area is determined per California Building Code (CBC) based on current enrollment. Max allowable occupants per CBC in the existing assembly area: for assemblies= 438 , dining = 204

8- Working Capacity (Class Size Reduction)=20 students/class for grades K-3 and 30 students/class for grades 4-5 based on schools current utilization.

9- Required number of toilets is calculated based on current enrollment and staff per CPC. Quantities may vary if calculated based on space areas and their Occupant Load Factor (OLF) as indicated in CPC.

## *Assessment Summary*

Existing facilities were evaluated from functional, code compliance, architectural and engineering perspectives. Summary of the findings along with proposed recommendations of each division are provided herein.

## Architectural

### 1. Buildings

#### 1.1. Classrooms[1]

There are twenty-three K-5 and six special program[2] classrooms, of which ten are housed in modular buildings. All grade level classrooms meet the CDE area recommendations of 960 s.f. However, all kindergarten classrooms are smaller than recommended; in addition, most do not contain an interior restroom. There are two undersize[3] classrooms which house the speech programs.

- **Site-built Classrooms (Units 2, 3, 4 and 5)**
  The modernization project for the site-built classroom buildings was conducted in 2001. The roofing system on these buildings is composition shingle and due to recent upgrades it is generally in good condition. The exterior finishes such as the doors, wood sash single-glazed windows, clerestory windows, and stucco wall coverings are all mainly in good condition.

  Interior finishes in these classrooms include glue up acoustical tile ceilings, tackable wall coverings and VCT flooring, all of which, are generally in good condition. The condition of the interior doors and casework varies from good to fair, by classroom. The accessories such as whiteboards, chalk boards and screens are in good condition; however curtains tracks are in fair condition and need to be adjusted closer to windows.

- **Modular Classrooms (Units 7, 8 and 9)**
  The modular buildings at this site were built between 1992 and 2003. Therefore, the condition of the finishes varies depending on the age of the building.

  The roofing system on these buildings is standing seam metal and is in fair condition in most places. The exterior finishes such as the doors, double glazed aluminum sliding windows and T-111 siding are in fair condition in the older buildings, though window screens are in poor condition in most buildings.

  Interior finishes in these classrooms include suspended acoustical tile ceilings which are in poor condition in the older buildings, carpet which is in good condition, VCT flooring which is in good condition in Unit 7 and in poor condition in Unit 8. The tackable wall coverings are in fair to good condition, and the casework in poor to fair condition.

[1] Classrooms referred to herein are spaces where grade level and/or special programs are taught, regardless of room size.
[2] For a complete list and description of special programs refer to Appendix 3.
[3] Undersize classrooms refer to classrooms smaller than 945 s.f. regardless of their area requirement, refer to Tables A-1 and A-2 for specific area requirements.

The accessories such as mini blinds, whiteboards, chalk boards and screens are generally in fair condition.

| Recommendation | Category[4] |
|---|---|
| • Provide internal restrooms in every kindergarten classroom. | 1 |
| • Expand and/or add kindergarten classrooms to meet current area requirements. | 1 |
| • Replace and/or upgrade interior and exterior finishes where in fair or poor condition. | 2 |
| • Remove and replace modular buildings built prior to 1995. | 2 |
| • Provide flexible classrooms to accommodate space for special programs (music, art, SDC, science, CHAC…) as well as after school programs. Number of flexible classrooms will be determined based on District's Educational Specifications. | 3 |

### 1.2. Multi-Use Room (MUR – Unit 6)

The Multi-Use Room is a hexagonal shaped building originally built in 1965 and modernized in 2002. The MUR modernization included interior and exterior finish upgrades, restroom renovations, and the creation of a new kitchen and servery. The design of this building is similar to four other schools within the District. The MUR includes a servery, kitchen, an assembly area and restrooms. The assembly area is used for school plays, PE, parent gatherings, open houses, and community festivities as well as a number of other programs. The assembly open space is not large enough to accommodate the entire school population during assemblies, though it is sufficient in accommodating one-third of school population during lunch periods. The servery is being utilized as a lunch pass-through only. Main non-conformities in this building include non-compliant exiting (exterior arches are too close to exit doors and adequate landing space has not been provided) and inadequate clear spaces at restrooms.

The roofing system on this building is composition shingle. Due to recent upgrades, it is generally in good condition. Exterior finishes such as doors are in fair to poor condition, the stucco is in fair condition, and the wood single-glazed storefront windows are in poor condition.

Interior finishes include glue up acoustical tile ceilings which are in good condition, doors, interior windows, gypsum board ceiling, and gypsum board and FRP wall panels, all in fair condition, and casework that is in poor condition. The flooring in this building consists of VCT in the assembly area and epoxy resin in the kitchen area, both of which are in fair condition. The specialty items in the assembly area include a non-accessible removable stage, curtains, and a non-acoustic operable partition which are all in fair condition.

[4] Refer to "Basis of Assessment" in the Methodology section of this report for category description.

| Recommendation | Category |
|---|---|
| • Renovate MUR to provide code compliant restrooms and exiting. | 1 |
| • Replace and/or upgrade interior and exterior finishes in fair or poor condition. | 2 |
| • Expand MUR to accommodate entire school population during assemblies. | 3 |
| • Provide acoustical operable walls in MUR to allow concurrence of multiple functions as well as larger flexible spaces. | 3 |

### 1.3. Administration (Unit 1)

The administration offices, the nurse's office, staff workroom, and staff lounge are located in the administration-classroom wing. There are only two offices (the principal's office and conference room). The staff lounge was added as part of the modernization to the administration offices in 2001. Therefore, the interior and exterior finishes within this Unit are mainly in good condition. However, the appliances in the lounge area are in poor condition. Also there are not sufficient restrooms to meet current staff population requirements per CPC, and the nurse's office does not have a designated restroom.

| Recommendation | Category |
|---|---|
| • Provide designated student restroom for nurse's office. | 1 |
| • Add one staff restroom. | 1 |
| • Provide flexible rooms for purposes of counseling, meetings, pull-outs, and offices. Number of flexible classrooms to be determined based on District's Educational Specifications. | 3 |

### 1.4. Library (Unit 7)

The library is housed in a modular building built in 1992. The size of the library meets CDE area guidelines per their current enrollment. The library is currently being used for various community purposes, such as 'community read meet', adult education (ESL, SSL), and senior readings. Due to the age of this building, exterior and interior finishes are mainly in fair condition.

| Recommendation | Category |
|---|---|
| • Replace and/or upgrade interior and exterior finishes in fair or poor condition. | 2 |
| • Add a centrally located site-built library/media center building. | 3 |

### 1.5. Restrooms

Restrooms are spread throughout the campus located in most classroom wings and the MUR. There are sufficient restrooms to meet current student population requirements, as well as an adequate number of accessible restrooms per CPC and DSA regulations. However, some restrooms do not meet the current accessibility code requirements per CBC. Non-conformities include hand dryers exceeding maximum allowable projection and obstacles such as lavatories projecting into the path-of-travel to the accessible stalls.

Restroom exterior doors are in fair condition. Interior finishes consist of gypsum board ceilings, epoxy flooring, gypsum wall boards, and solid phenolic partitions all generally in good condition. In addition, there are ceramic wainscot panels up to 4' high which are in good condition, although cracking has occurred in some places.

| Recommendation | Category |
|---|---|
| • Upgrade restrooms and/or restroom accessories to meet current accessibility code requirements. | **1** |
| • Replace and/or upgrade interior and exterior finishes in fair or poor condition. | **2** |

## 2. General Site

### 2.1. Site Accessibility

Path-of-travel issues such as high thresholds, non-compliant entry and exits at the MUR, non-compliance ramps and handrails at modular buildings were noticed throughout the campus. In addition, the drinking fountains are not code compliant. Signage has not been provided at classrooms; also, where provided at restrooms, signage is not code compliant. The asphalt paving is in good to fair condition, and the concrete paving is in fair to poor condition at walkways.

| Recommendation | Category |
|---|---|
| • Perform a detailed Accessibility Survey to identify and address all barriers to accessibility per CBC and DSA provisions. (Drinking fountains, signage, restrooms, and path-of- travel). | **1** |
| • Replace and repair concrete paving where it is either a safety hazard, barrier to accessibility, or compromises long term sustainability. | **1** |

### 2.2. Parking, Pick-Up/Drop-Off and Bus Loading

The campus has an adequate number of parking spaces per CDE guidelines and required number of accessible spaces for the current enrollment population. Pick-up/drop-off is combined with the bus loading area located in the north parking lot. CDE recommends that these areas be separated to allow students to enter and exit school grounds safely.

| Recommendation | Category |
|---|---|
| • Separate pick-up/drop-off, bus loading, and parking areas | **1** |
| • Provide walkways from kindergarten classrooms (rooms 5 and 6) to the parking. | **3** |

### 2.3. Hard-Court, Play Equipment Spaces and Fields

There is one general hard-court play area, an athletic field and three play equipment spaces for different grade levels including kindergartners. In order to meet CDE's design guidelines for current enrollment, all play equipment spaces should be expanded. The tanbark in the playground areas is in fair condition.

| Recommendation | Category |
|---|---|
| • Provide a separated kindergarten play area comprised of both turf and hard-court to allow for better supervision and safer outdoor environment (for area recommendation see Table A-2). | **1** |
| • Remove tan bark in play equipment areas and replace with rubber surfacing for safety and accessibility purposes. | **1** |
| • Expand play areas as recommended in Table A-2. | **3** |

### 2.4. Covered Walkways

The system on the covered walkways is built-up roofing, in fair condition. There are several roof-mounted conduits mounted on the walkway roofs throughout the campus.

| Recommendation | Category |
|---|---|
| • Remove roof mounted conduits and re-roof. | **2** |

## Structural

The subject buildings were evaluated based on achieving a "life safety protection" performance objective. This performance objective represents minimum standards of seismic resistance generally recognized as providing adequate seismic risk protection to building occupants during large locally occurring earthquakes. The deficiencies identified in this report reflect the ASCE 31-03 Tier I results which were confirmed via rough code based analysis and/or ASCE 31-03 Tier II analysis as applicable.

### 1. Administration and Classroom Building (Unit 1 and 2)

Unit 1 and 2 are a single story wood framed administration/classroom building. The building was remodeled in 2001. No information was found on the original construction of the building, but through visual inspection we evaluated it to be similar to Units 1 and 2 on the Huff campus but interconnected through walls. Based on the ASCE Tier I analysis, Unit 1 and 2 has no deficiencies.

**This building receives a subjective rating of 1**[5]

### 2. Classroom Building (Unit 3)

Unit 3 is a single story wood framed classroom building. No information was found on this building, but through visual inspection we evaluated it to be similar to Unit 3 on the Huff campus. Based on the ASCE Tier I analysis, Unit 3 has one deficiency. The north and south walls have openings greater than 80% of the length which do not meet the 1.5 to 1 aspect ratio. No retrofits are required at this time.

**This building receives a subjective rating of 2**

### 3. Classroom Building (Unit 4)

Unit 4 is a single story wood framed classroom building. No information was found on this building, but through visual inspection we evaluated it to be similar to Unit 4 on the Huff campus. Based on the ASCE Tier I analysis, Unit 4 has one deficiency. The north and south walls have openings greater than 80% of the length which do not meet the 1.5 to 1 aspect ratio. No retrofits are required at this time.

**This building receives a subjective rating of 2**

### 4. Classroom Building (Unit 5)

Unit 5 is a single story wood framed classroom building with an original construction date of 1959. Based on the ASCE Tier I analysis, Unit 5 has one deficiency. The north and south walls have openings greater than 80% of the length which do not meet the 1.5 to 1 aspect ratio. No retrofits are required at this time.

**This building receives a subjective rating of 2**

### 5. Multi-Use Building (MUR – Unit 6)

The Multi-Use building (MUR) is a single story steel building constructed in 1965/67 with approximately 4,962 square feet of floor area. This is one of four identical buildings located at different elementary school sites (Huff, Bubb, Slater, and Landels) and this report applies to all four conditions. The building consists of a wood framed roof diaphragm and steel wide flange beam and tube steel cantilever columns. The roof diaphragm is supported by the steel beams. The foundation system consists of perimeter continuous footings as well as spread footings beneath the tube steel columns.

[5] Refer to "Structural" section of the Methodology for system rating description.

The buildings were found to have varying conformance to the ASCE 31 guidelines. The greatest deficiency is the existing tube steel 8x8 cantilever columns that do not have the strength or the stiffness required to adequately resist the lateral loads expected to occur during an earthquake. This type of construction is also more flexible than other building types and this flexibility can lead to large drifts during an earthquake, causing extensive structural and non-structural damage.

**This building receives a subjective rating of 3**

| | Recommendation | Category |
|---|---|---|
| | • Sheath selected solid exterior walls with plywood to create shear walls to achieve a life-safety performance level. | 1 |

For full text of structural report and applicable ASCE 31-03 Tier I checklist sheets, see Appendix 4.

## Mechanical

The following reports and comments are based on observations of the general condition of the mechanical systems and noticeable code issues resulting from an on-site visit, review of the existing record drawings, and feedback from Mountain View Whisman School District staff. Each existing HVAC system should be reviewed, tested, and upgraded to correct the possible problems due to faulty instruments, controls, and other installation issues.

### 1. HVAC Equipment

The site was modernized in 2001 and the mechanical systems (HVAC equipment, ductwork, air distribution and controls) were replaced at that time. The HVAC equipment is eight years old. The typical life expectancy of HVAC equipment is fifteen years, if maintained per manufacturer, operation, and maintenance guidelines. The HVAC equipment has standard efficiency but does not meet current Title 24 standards.
The existing HVAC equipment consists of two rooftop gas/electric package air conditioning units serving the administration area, four rooftop heat pump units serving the Multi-Purpose building, and split systems (indoor gas fired furnaces and outdoor condensing units) serving the each classroom. Each restroom is ventilated by an exhaust fan and each modular building is served by wall mounted self-contained heat pumps. Currently, there is no air conditioning for any of the IDF and MDF rooms. In the administration, MUR and classroom buildings, the ductwork appears to be in original condition per the last modernization. In the administration and MUR, the system appears to provide adequate air distribution. In the typical classroom, the ductwork in the soffit does not span the entire wall, and two registers are too close together.

| Recommendation | Category |
|---|---|
| • At the end of life expectancy replace all HVAC units with High efficiency units to meet or exceed the current Title 24 requirements. High efficiency units will use less energy and save on energy costs. | **2** |
| • For the IDF Rooms, provide a Split System: cooling-only fan coil and roof mounted condensing unit, which will prevent overheating of telecommunication equipment. | **2** |
| • When replacing HVAC equipment, provide additional registers to insure proper air distribution. | **2** |
| • Replace HVAC equipment that will qualify for Green Building Certification, either LEED or CHPS. | **3** |

### 2. Energy Management System (EMS)

The existing Energy Management System (EMS) is manufactured by Alerton Technology. The existing EMS is Digital Direct Control, Windows-based with dial-up modem. The existing EMS is slow and hard to maintain because it fails frequently. Additionally, modular buildings are not tied to the EMS system.

| Recommendation | Category |
|---|---|
| • Replace existing Energy Management System (EMS) with new EMS, which is BACNet compatible with internet access through District network, easy to use, and password protected. The new EMS will be faster, easier to maintain, and meet current technology changes. | **2** |
| • Modular buildings should be connected to the Energy Management System (EMS). | **2** |

## Plumbing and Site Utilities

This report and comments to follow are based on observations of the general condition of the plumbing systems and site utilities and noticeable code issues resulting from an on-site visit, review of the existing record drawings and feedback from Mountain View Whisman School District staff.

### 1. Plumbing System

The plumbing fixtures in the building were replaced, including in the 2001 modernization project. Hose bibs at the exterior walls of the buildings are without vacuum breaker device. Plumbing equipment, such as water heaters, are in good condition. Typical life expectancy of plumbing equipment can be between 5-10 years, depending on the type of equipment. Plumbing fixtures such as urinals and water closets are in good condition but do not meet current water conservation standards.

| Recommendation | Category |
|---|---|
| • Provide vacuum breaker devices for all exterior hose bibs to prevent backflow into the potable water system. | 1 |
| • Replace plumbing equipment at the end of life expectancy. | 2 |
| • Replace existing plumbing fixtures, i.e., faucets, urinals, water closets, with high efficiency plumbing fixtures that meet green building certification like LEED or CHPS to reduce water consumption (i.e., install waterless urinals and low-consumption flush toilets). | 3 |

### 2. Gas

The site is supplied with one gas meter without earthquake-actuated gas shutoff valve, located at the northeast side of the administration building. The existing site underground gas main and distribution to all the buildings were replaced in the 2001 modernization project. Gas piping has a typical life expectancy of 25-30 years. The exterior steel gas pipe runs underground and branches-off to each building with a riser at the exterior wall and a shut-off valve below grade. The interior steel gas pipe is inside the building, below the roof and connected to the mechanical equipment in the building or on the roof.

| Recommendation | Category |
|---|---|
| • Provide an earthquake-actuated gas shutoff valve for the gas system to automatically shut off gas in the event of a seismic disturbance. | 1 |

### 3. Domestic Water

The site and building domestic water systems were replaced in the 2001 modernization project with the exception of the domestic water system in the modular buildings. The site is supplied with one 3" water meter located north of the campus near Dana Street. The domestic water piping has a typical life expectancy of 25-30 years. The exterior copper domestic water piping runs underground and branches-off to each building with a riser at the exterior wall and a shut-off valve below grade. The interior copper domestic water piping is supported below the roof and connected to each plumbing fixture in the building.

| Recommendation | Category |
|---|---|
| • The domestic water system to the modular buildings is to be replaced when it is necessary because of leakage and age, which causes loss of water pressure. | 2 |

### 4. Sanitary Sewer

The site sanitary sewer system was not replaced in the modernization project. Typically, sanitary sewer systems have a life expectancy of 30-40 years depending on the piping material installed. In the 1960s and 1970s, sanitary main trunk lines were typically 6-inch vitrified clay pipe (VCP). Clay pipe has long been used for sanitary sewer mains and is still considered a competent product for this purpose. Depending on location, internal velocities, and adequate joints, VCP can have life expectancy up to 40 years.

| Recommendation | Category |
|---|---|
| • For the sanitary sewer system, either perform a video survey to assess the type of piping material and the percentage to be replaced, or replace all piping. Apply high velocity water jetters to the system prior to a video survey. | 2 |

### 5. Storm Drainage

Typically, storm drainage systems have a life expectancy of 30-40 years depending on the piping material installed. Typical storm drainage piping materials include reinforced concrete pipe (RCP), corrugated metal pipe (CMP), polyvinyl chloride pipe (PVC), and high-density polyethylene pipe (HDPE).

| Recommendation | Category |
|---|---|
| • For the storm drainage system, either perform a video survey to assess the type of piping material and the percentage to be replaced, or replace all piping. Apply high velocity water jetters to the system prior to a video survey. | 2 |

## Electrical

This report and comments to follow are based on observations of the general condition of the electrical systems and site utilities and noticeable code issues resulting from an on-site visit, review of the existing record drawings and feedback from Mountain View Whisman School District staff.

### 1. Power

A 2000A, 208/120V, 3 phase, 4 wire switchboard located outside of the multi-purpose building provides power to the campus. The switchboard was installed in 2001 and is in good condition. According to PG&E records, the current peak usage on the system is about 500 amps and there is a spare capacity of 1000 amps approximately for future usage. The majority of the power distribution conduits were installed underground with some power and low voltage system conduits installed on the roof or above the covered walkway. Most of the areas had adequate power outlets for the current use. There were four (4) 20amp circuits connected to each classroom. These were not used to the maximum capacity. All distribution and branch circuit panels are in good condition with spare capacity and breaker spaces for future need. Some of the electrical rooms were used for storage and violated the code requirement of 36" clearance in front of the panel board. According to the users, some of the power outlets in the modular buildings were not usable and required repair work.

| Recommendation | Category |
|---|---|
| • Maintain code required clearance in front of all electrical panel boards and equipment. | 1 |
| • Repair disconnected power outlets at modular buildings for proper function. | 1 |
| • Remove electrical distribution conduits from roof to under canopy or underground to avoid re-roofing problems. | 3 |

### 2. Lighting

The majority of the light fixtures are of fluorescent source with electronic ballast and T8 lamps. The lighting level is adequate for the task performed in each area and meets the requirement of current Title 24 efficiency standards. Interior fixtures are controlled by ceiling or wall mounted occupancy sensors with override switches. Exterior light fixtures are controlled by photocell and time clock via low voltage lighting control panel. The lenses of many exterior canopy lights have been browned out and require replacement. The parking lot does not have adequate lighting for pedestrian safety.

| Recommendation | Category |
|---|---|
| • Replace existing exterior light fixtures and add additional fixtures in the parking lot to improve campus safety. | 1 |
| • Connect exterior lighting to EMS system for energy saving and ease of campus control. | 2 |
| • Replace existing lighting fixtures with energy efficient lamps and ballasts of current technology to save operating cost. | 3 |

### 3. Fire Alarm

The campus is provided with a manual/automatic addressable fire alarm system with pull stations, smoke detectors, and notification devices. The existing FCI 7200 panel located in the administration office is in working condition, but it is obsolete with no current state fire marshal listing. The visual and audio notification device coverage on the campus does not comply with current code.

| Recommendation | Category |
|---|---|
| Replace existing fire alarm system with new network based addressable fire alarm system with adequate notification devices throughout the campus to meet the current code. | 1 |

### 4. Paging/Clock

Existing Bogen PA/Clock system located in the electrical room in Unit 1 Administration building provides for campus announcements, master clock, and bell schedule. The campus has good announcement coverage and the system is in good condition.

### 5. Security

Sonitrol Alarm provides a working, adequate security monitoring of the campus through audio motion sensor and door contacts. Sonitrol Alarm provides third-party monitoring and is hired by the District.

## Technology

These recommendations are based on the information obtained during the observation of the general condition of the schools and feedback from staff at Mountain View Whisman School District.

### 1. Structure Cabling

The copper cabling in this school is CAT5 and CAT 5E and was installed over ten years ago. It seems that some of the CAT 5E was recently added. Station cabling is installed in plastic wiremold on the walls, and station jacks are a mix of blocks and different style faceplates. Cable labeling is a mix of styles, and some cables are not labeled. There are six strands of 62.5/125 multi-mode fiber from each IDF to the MDF. There are RG-11s from the MDF to each IDF and RG-6 to each end station in the building for broadband distribution. Feedback from the District shows that they have or are working on a cabling standard. Overall, the structure cabling is in fair condition.

| Recommendation | Category |
|---|---|
| • Replace cabling to bring it up to both current industry standards, in order to support the different applications (EMS, Video Safety, VoIP, web applications etc.). Recommendation is to upgrade the horizontal cabling to Category 6. | **3** |
| • Propose a plan to demolish and remove all abandoned cables. | **3** |
| • Upgrade the fiber backbone to the latest industry standards. | **3** |

### 2. IDF/MDF Environment

The MDF is located in the administration building. IDFs are typically located in the classroom, boiler/mechanical/electrical, or storage room and are dusty and dirty. Most locations are not easily accessible and some locations do not get filtered air. This will cause equipment fans to fail and device shut-down due to heat or the complete failure of a network switch. The failure of a network will cause that entire building to go off-line for an extended period until the device is replaced Some IDFs are not equipped with a UPS, grounding, and proper horizontal wire manager, and the wire managers are not used effectively creating a twisted and unmanageable wire system. Landels ES is a hub for the following schools: Bubb, Castro, Graham, and Slater. All traffic from these schools transverse Landels to the other sites or the Internet.

| Recommendation | Category |
|---|---|
| • Implement a solution that will safeguard the equipment located in the IDFs. | **2** |
| • Provide a clean, air-conditioned, and secure environment for network infrastructure or relocate the IDF. | **2** |
| • Provide appropriate electrical, grounding, and UPS solutions in each IDF. | **2** |

### 3. Video Safety System

The District does not have a video safety system in place for this school.

| Recommendation | Category |
|---|---|
| • Implement a network based video safety solution that will monitor the exterior and problem areas of the campus. | 3 |

### 4. Data Network

All the switches for this school are HP ProCurve with the capability to support a speed of 10/100. Per discussion with school personnel, the school cabling infrastructure can not support gigabit connection; therefore 10/100 switches were installed. The District would like to move towards more web-based applications. With the shift toward web-based applications, there is a need for increased Internet bandwidth. To provide wireless connectivity, some IDFs are equipped with a buffalo wireless access point (AP).

| Recommendation | Category |
|---|---|
| • Replace the current switching solution with the District's new switching standard (HP Procurve or equal) to support Gig connection to the desktop. | 3 |
| • Replace the current wireless solution with an enterprise solution that allows the school to efficiently deploy, secure, and centrally manage the wireless LAN and meets current industry standard such as 802.11n. | 3 |

### 5. Video Distribution System

Most classrooms are equipped with coaxial cable for cable services. It seems that most classrooms are not using the service. Classrooms are typically equipped with a wall mounted TV with a VCR.

| Recommendation | Category |
|---|---|
| • Upgrade the current (coaxial cable) video distribution system to a network based system utilizing the newly installed cabling standard. With a network based solution, the classroom can have access to educational video streaming services from the Internet to enhance the learning experience of students. | 3 |

### 6. Phone System

Phone system, sipXecs IP PBX, was installed during the summer of 2009. Phones are Polycom 321/331 and 450s.

### 7. Smart Classroom

Currently there is minimal integration of technology into the classroom. Some of the classrooms have components (projector, TV, VCR/DVD player) of a smart classroom and are currently using them.

| Recommendation | Category |
|---|---|
| • Develop a plan to implement the latest instructional technology in the classrooms to meet educational goals. | **3** |

# *Monta Loma Elementary School*

**General Information**

| | |
|---|---|
| Address: | 460 Thompson Avenue<br>Mountain View, CA 94043 |
| Telephone: | 650.903.6915 |
| Grade Levels: | K-5 |
| 2008/2009 Enrollment: | 520 Students |

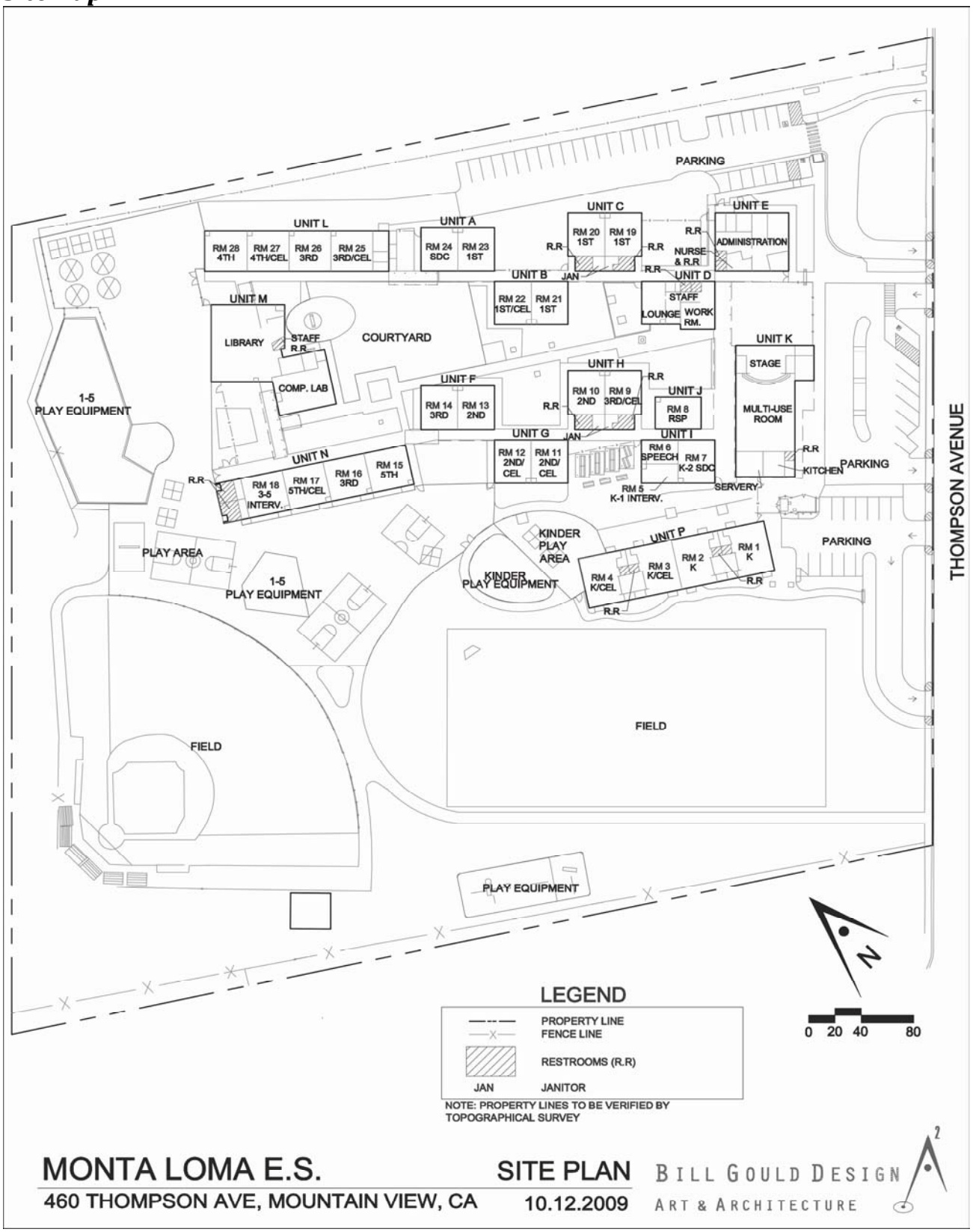
**Site Information:**

| | |
|---|---|
| Gross Acreage: | 10.28 Acres |
| Net Useable Acreage: | 10.28 Acres |

**Building Information:**

| | |
|---|---|
| Original Construction: | 1955 |
| Additions: | 1956 – 1999 |
| Gross Building Area: | 45,605 sq. ft. |
| Site-built Construction: | 45,605 sq. ft. |
| Modular Construction : | 0 sq. ft. |

## *SiteMap*


PARKING
UNIT L
RM 28 4TH
RM 27 4TH/CEL
RM 26 3RD
RM 25 3RD/CEL
UNIT A
RM 24 SDC
RM 23 1ST
UNIT C
RM 20 1ST
RM 19 1ST
R.R
NURSE & R.R
UNIT E
ADMINISTRATION
UNIT B
JAN
RM 22 1ST/CEL
RM 21 1ST
UNIT D
STAFF LOUNGE
WORK RM.
UNIT M
LIBRARY
STAFF R.R
COMP. LAB
COURTYARD
UNIT K
STAGE
MULTI-USE ROOM
KITCHEN
SERVERY
1-5 PLAY EQUIPMENT
UNIT F
RM 14 3RD
RM 13 2ND
UNIT H
RM 10 2ND
RM 9 3RD/CEL
UNIT J
RM 8 RSP
UNIT G
RM 12 2ND/ CEL
RM 11 2ND/ CEL
UNIT I
RM 6 SPEECH
RM 7 K-2 SDC
RM 5 K-1 INTERV.
UNIT N
RM 18 3-5 INTERV.
RM 17 5TH/CEL
RM 16 3RD
RM 15 5TH
PARKING
PLAY AREA
KINDER PLAY AREA
KINDER PLAY EQUIPMENT
UNIT P
RM 4 K/CEL
RM 3 K/CEL
RM 2 K
RM 1 K
1-5 PLAY EQUIPMENT
FIELD
FIELD
PLAY EQUIPMENT
THOMPSON AVENUE
N
0 20 40 80
LEGEND
PROPERTY LINE
FENCE LINE
RESTROOMS (R.R)
JAN JANITOR
NOTE: PROPERTY LINES TO BE VERIFIED BY TOPOGRAPHICAL SURVEY
MONTA LOMA E.S.
460 THOMPSON AVE, MOUNTAIN VIEW, CA
SITE PLAN
10.12.2009
BILL GOULD DESIGN
ART & ARCHITECTURE

## *Introduction*

Monta Loma is located in the northwestern area of the city serving a highly diverse population of K-5. It also has an active parent and community participation program, Community Enhanced Learning (CEL).

The facilities were originally constructed in 1955 with a series of additions starting in 1956 through 1962. In 1980 the campus was refurbished following fire damage. Modernization to the site was conducted in 1999, included the additions of a new library, classroom buildings, kindergarten building and an upgrade of all existing facilities.

The site is 10.28 acres and consists of multiple classroom buildings, an administration building, staff lounge/work room, a library/computer lab building and a Multi-Use Room (MUR). There are no modular buildings on this site.

## *Planning Process*

The assessment process included review of drawings, site visits and field verification, meetings with District administrative staff and school committees, and, finally, evaluation of collected data. Following the assessment process, recommendations were developed to improve the conditions and educational suitability of each site. These recommendations were classified based on categories described in "Basis of Assessment" in the Methodology section of this report. The existing conditions were evaluated utilizing a Good, Fair, Poor rating system also described in the Methodology section.

School specific data such as existing and recommended number of buildings, space areas, and maximum and allowable occupancies have been specified in Table "A-1 Classroom Occupancy" and Table "A-2 Space Utilization."

Information provided is based on District enrollment, District policies and the most recent codes and guidelines in effect at the time of this report. As these factors change, recommendations will be revised and reflected in the SFIP. The Conditions and Needs Analysis Report herein will serve as a working tool guiding the District's future Facilities Improvement Plan.

## *Summary*

While potential deficiencies were identified throughout the campus within this study, in no instance were they of a serious enough nature to warrant immediate action. Individual scopes of work and their projected costs will be developed as part of the upcoming SFIP to be implemented in future modernization projects.

**Table A-1 Classroom Occupancy**

| Use | | Room # | Bldg Type /Number of Modulars | Working Capacity[1] (# students) | Existing Area ( s.f) | Recommended Area (s.f.)[2] | Modular Bldg Area (s.f) | Other (s.f.) |
|---|---|---|---|---|---|---|---|---|
| **Kindergarten** | K | 1 | Site built | 20 | 1,455 | 1,350 | | |
| | K | 2 | Site built | 20 | 1,445 | 1,350 | | |
| | K/CEL | 3 | Site built | 20 | 1,445 | 1,350 | | |
| | K/CEL | 4 | Site built | 20 | 1,455 | 1,350 | | |
| **Sub Total** | | | **0** | **80** | **5,800** | | **0** | |
| **Grades 1-3** | 1 | 19 | Site built | 20 | 960 | 960 | | |
| | 1 | 20 | Site built | 20 | 960 | 960 | | |
| | 1 | 21 | Site built | 20 | 960 | 960 | | |
| | 1/CEL | 22 | Site built | 20 | 960 | 960 | | |
| | 1 | 23 | Site built | 20 | 960 | 960 | | |
| | 2 | 10 | Site built | 20 | 960 | 960 | | |
| | 2/CEL | 11 | Site built | 20 | 960 | 960 | | |
| | 2/CEL | 12 | Site built | 20 | 960 | 960 | | |
| | 2 | 13 | Site built | 20 | 960 | 960 | | |
| | 3/CEL | 9 | Site built | 20 | 960 | 960 | | |
| | 3 | 14 | Site built | 20 | 960 | 960 | | |
| | 3 | 16 | Site built | 20 | 1,025 | 960 | | |
| | 3/CEL | 25 | Site built | 20 | 1,025 | 960 | | |
| | 3 | 26 | Site built | 20 | 1,025 | 960 | | |
| **Sub Total** | | | **0** | **280** | **13,635** | | **0** | |
| **Grades 4-5** | 4/CEL | 27 | Site built | 30 | 1,025 | 960 | | |
| | 4 | 28 | Site built | 30 | 1,035 | 960 | | |
| | 5 | 15 | Site built | 30 | 1,035 | 960 | | |
| | 5/CEL | 17 | Site built | 30 | 1,025 | 960 | | |
| **Sub Total** | | | **0** | **120** | **4,120** | | **0** | |
| **Special Programs - Pull Out** | | | | | | | | |
| | Intervention K-1 | 5 | Site built | 0 | 425 | | | |
| | Speech | 6 | Site built | 0 | 535 | | | |
| | SDC K-2 | 7 | Site built | 12 | 960 | | | |
| | RSP | 8 | Site built | 0 | 860 | | | |
| | Intervention 3-5 | 18 | Site built | | 1,025 | | | |
| | SDC | 24 | Site built | 12 | 960 | | | |
| **Sub Total** | | | **0** | **24** | **4,765** | | **0** | |
| | Approx. area of restrooms, storages, elec - not included in classroom areas | | | | | | | 2,352 |
| | | | **0** | | | | **0** | |
| **TOTAL** | | | **0** | **504** | **28,320** | | | |

Notes:

1- Working Capacity (Class Size Reduction)=20 students/class for grades K-3 and 30 students/class for grades 4-5 based on schools current utilization.

2- Per Title 5, California Code of Regulations (CCR) for new schools. (used as guidelines in this spreadsheet)

**Table A-2 Space Utilization**

| Use | Building Components | Current Number of Classes/Teaching Stations | Number of Modulars | Building Component Area (s.f.) | Existing Area (s.f.) | Current Enrollment | Working Capacity[7] (# students) | Recommended Area (s.f.) | Notes |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |
| **K** | | 4 | | | 5,800 | 87 | 80 | | |
| **1-3** | | 14 | | | 13,635 | 279 | 280 | | |
| **4-5** | | 4 | | | 4,120 | 130 | 120 | | |
| **K-5 Sub-total** | | 22 | 0 | | **23,555** | **496** | **480** | | |
| | | | | | | | | | |
| **Special Programs [5]** | | | | | | | | | |
| | | | | | | | | | |
| Intervention K-1 | | 1 | | | 425 | | | | |
| Speech | | 1 | | | 535 | | | 240 | |
| SDC K-2 | | 1 | | | 960 | 12 | 12 | 960 | |
| RSP | | 1 | | | 860 | | | 200 | |
| Intervention 3-5 | | 1 | | | 1,025 | | | | |
| SDC | | 1 | | | 960 | 12 | 12 | 960 | |
| | | | | | | | | | |
| **Sub-Total:** | | **6** | **0** | | **4,765** | **24** | **24** | | |
| | | | | | | | | | |
| **Administration** | | | | | 2,520 | | | | |
| **Staff lounge/work room** | | | | | 2,038 | | | | |
| **Library/computer lab** | | | | | 5,296 | | | | |
| | Library | | | 3,305 | | | | | |
| | Computer Lab | | | 1,370 | | | | | |
| | Other (restroom, storage, data/elec, conference) | | | 621 | | | | | |
| **Multi use[6]** | | | | | 5,079 | | | | |
| | Assembly | | | 2,605 | | | | 3,640 | Area recommended is to accommodate entire school population in assemblies. To acommodate 1/3 school population during lunch = 173*15=2,595sf. |
| | Food Servery | | | 415 | | | | | |
| | Other (restroom, storage,kitchen, stage) | | | 2,059 | | | | | |
| | | | | | | | | | |
| **Restrooms,storages--not included in bldg areas** | | | | | 2,352 | | | | |
| | | | | | | | | | |
| **Sub-Total:** | | | **0** | | **17,285** | | | **0** | |
| | | | | | | | | | |
| | | | | | | | | | |
| **Total** | | **28** | **0** | | **45,605** | **520** | **504** | | |

| **General:** | **Existing** | | **Recommended** | |
|---|---|---|---|---|
| Property | 10.28 ac | | | |
| Parking [1] | 52 stalls | | 63 | stalls |
| Accessible Parking[2] | 3 stalls | | 3 | stalls |

| **Existing Buildings:** | **# of Bldgs** | **% of Total** | **Bldg Area (s.f.)** |
|---|---|---|---|
| Total Building Area: | | | 45,605 |
| Modulars | 0 | 0% | 0 |
| Site-built | | 100% | 45,605 |

| **Play Areas:** | **Grade Level** | **Existing (s.f.)** | **CDE Recommended area(s.f.) [4]** |
|---|---|---|---|
| Play Equipment Area | K | 2,380 | 2,500 |
| | 1-3 [9] | 7,965 | 9600 |
| | 4-5 [9] | 1,885 | 6,400 |
| Hard-Court | K | 3,110 | 4,000 |
| | 1-5 | 44,215 | 34,000 |
| Fields/Turf | K | -- | 5,500 |
| | 1-5 | 102,990 | 37,600 |

| **Students /Staff [3]** | | |
|---|---|---|
| Current Enrollment | 520 | **"Medium"** size school per CDE |
| Staff | 52 | |

| | **Existing** | **Required [8]** |
|---|---|---|
| **Restrooms :** | **# Toilets, # Urinals (U)** | **# Toilets, # Urinals (U)** |
| Kinder | 4 | 4 |
| 1-5 | 20, 9U | 19, 3U |
| Staff | 4 | 5, 1U |

| **Classrooms** | |
|---|---|
| Undersize classes (< 945 s.f.) | 3 |

**Notes:**

1- Number of parking stalls recommended per CDE guidelines based on number of teaching stations.

2- Number of accessible parking spaces required per CBC based on number of parking stalls

3- Current student enrollment and number of staff provided by school

4- Recommended area based on current enrollment per CDE guidelines.

5- Recommended area for special program classrooms are based on Title 5, California Code of Regulations (CCR) for new schools- used as guideline only

6- Recommended area is determined per California Building Code (CBC) based on current enrollment. Existing building maximum allowable occupants per CBC: for assembly = 372 , for dining = 173

7- Working Capacity (Class Size Reduction)=20 students/class for grades K-3 and 30 students/class for grades 4-5 based on schools current utilization.

8- Required number of toilets is calculated based on current enrollment and staff per CPC. Quantities may vary if calculated based on space areas and their Occupant Load Factor (OLF) as indicated in CPC.

9- Currently 1-5 grade students share both play equipment spaces.

## *Assessment Summary*

Existing facilities were evaluated from functional, code compliance, architectural and engineering perspectives. Summary of the findings along with proposed recommendations of each division are provided herein.

# Architectural

### 1. Buildings

### 1.1. Classrooms[1]

There are twenty-two K-5 and six special program[2] classrooms, all of which are housed in site-built buildings. All classrooms meet CDE area recommendations; programs currently housed in undersize[3] classrooms include Intervention, Speech and RSP.

- **Site-built Classrooms (Units A, B, C, F, G, H, I, J, L, N, and P)**
  Site-built classroom buildings A, B, C, F, G, H, I and J were originally constructed between 1955 and 1962, with fire repair to some buildings in 1980 (referred to in this report as 'older buildings'). Modernization was conducted in 1999 which also included addition of buildings L, N and P (referred to as newer buildings).

  The standard seam metal roofing system on all these buildings is generally in good condition. The exterior wall finishes are in fair condition on the older buildings and in good condition on newer buildings. The exterior doors are in good condition on newer buildings, Units A, B, and C, and in poor condition on the other units. The single-glazed windows are in good condition on the newer buildings and in fair condition on the older buildings, including the aluminum sliding glass doors on Units F, G, H, J and I.

  The interior finishes include glue up acoustical tile and exposed ceilings, both generally in good condition, wall covering in fair condition in older buildings and in good condition in newer buildings. The gypsum board walls and VCT and carpet flooring are generally in good condition throughout. The casework is new and in good condition in newer buildings and is in poor condition in older buildings. There is also insufficient wall space in older buildings except for Units A, B, and C.

  The accessories, such as the teaching walls[4] in Units L and N, whiteboards, chalk boards and screens, are generally in good condition. Window coverings are missing in all classrooms and some teachers have resorted to using paper to shield the windows

[1] Classrooms referred to herein are spaces where grade level and/or special programs are taught, regardless of room size.
[2] For a complete list and description of special programs refer to Appendix 3.
[3] Undersize classrooms refer to classrooms smaller than 945 s.f. regardless of their area requirement, refer to Tables A-1 and A-2 for specific area requirements.
[4] A teaching wall is a piece of casework which integrates storage behind sliding whiteboards.

| Recommendation | Category[5] |
|---|---|
| • Replace and/or upgrade interior and exterior finishes in fair or poor condition. | 2 |
| • Provide window coverings for all classrooms. | 3 |

### 1.2. Multi-Use Room (MUR – Unit K)

The Multi-Use Room (MUR) was originally built in 1958, with additions in 1999 including a servery and addition of a storage room. The MUR consists of an assembly area, kitchen, servery, restroom, and storage spaces. The assembly area contains a permanent stage and is used during school assemblies and lunch periods.

The assembly open space is not large enough to accommodate the entire school population during assemblies, though it is sufficient in accommodating one-third of school population during lunch periods. Non-conformities include high thresholds and an inaccessible kitchen sink.

The standing seam metal roofing system on this building is in good condition, although the downspouts are discharged into the planters. The exterior finishes consist of board and batten siding, steel fixed frame single-glazed windows, and doors, all of which, are in fair condition.

The ceilings in this building include acoustical tiles and gypsum board in the servery, both in good condition, and tectum ceiling at the stage which is in fair condition. The wall coverings consist of gypsum board which is in fair condition, FRP in the servery area and ceramic tile in the restrooms., both of which are in good condition. Flooring includes VCT that is in fair condition, and carpet which is in poor condition. The ceramic tile in the restrooms and the epoxy in the kitchen and servery areas, are both in good condition. Other interior finishes include interior doors which are in fair condition and new casework that is in good condition.

The accessories such as mini-blinds, foldout benches, and white boards are all generally in fair condition.

Specialty items in the assembly area include a permanent stage that is in poor condition with stairs which are in fair condition. The curtain and accessible lift are in good condition, and there is an operable partition which is in fair condition.

The Foodservice equipment, as well as the stainless steel roll-up window, are all in good condition.

[5] Refer to "Basis of Assessment" in the Methodology section of this report for category description.

| Recommendation | Category |
|---|---|
| • Upgrade path-of-travel to meet current accessibility code requirements and provide accessible sink in the kitchen. | 1 |
| • Replace and/or upgrade interior and exterior finishes in fair or poor condition. | 2 |
| • Replace all accessories and specialty items in fair or poor condition. | 2 |
| • Provide acoustical operable walls in MUR to allow concurrence of multiple functions. | 3 |
| • Expand MUR to accommodate entire school population during assemblies. | 3 |

### 1.3. Administration, Staff Lounge/Work Room (Units D and E)

These building were originally constructed in 1955 with repair from fire damage performed in 1980 and modernization conducted in 1999. Both buildings are located near the main entrance of the campus; the administration building comprises of three offices, a conference room, a workroom, a nurse's room and restrooms.

There are not sufficient restrooms to meet current staff population per CPC requirements. All staff restrooms are within administration and staff lounge buildings.

The exterior finishes include standing seam metal roofing which is in good condition, and board and batten siding that is in fair condition. The exterior doors are in fair to good condition, while the wood fixed single-glazed windows are in fair to poor condition.

The interior finishes including carpet, glue up and T-bar acoustical tile ceiling, gypsum board walls, VCT flooring and casework are all generally in good condition, with the exception of the scratched VCT and ceiling tiles in the staff building which are in fair condition.

Accessories such as teaching walls, white boards, mini-blinds and toilet partitions are all in good condition with the exception of the vertical blinds in the staff building which are in poor condition.

| Recommendation | Category |
|---|---|
| • Provide additional staff restrooms to meet current staff population requirements. | 1 |
| • Replace and/or upgrade exterior finishes in fair or poor condition. | 2 |
| • Replace all accessories and specialty items in fair or poor condition. | 2 |

### 1.4. Library (Unit M)

The library was built as part of the 1999 modernization project; the computer lab is also housed in this building. The size of the library meets CDE area guidelines per current enrollment. Interior and exterior finishes in this building are fairly new and are generally in good condition.

### 1.5. Restrooms

Student restrooms are located in several site-built classroom buildings and in the MUR. There are sufficient restrooms to meet current student population requirements, as well as an adequate number of accessible restrooms per CPC and DSA regulations. However, the thresholds are too high and do not comply with current accessibility code requirements per CBC. There are also some missing grab bars and high thresholds in the older building restrooms.

The exterior push/pull doors (without closers) as well as windows are in fair condition. The interior finishes consist of FRP wall covering, gypsum board ceilings and walls which are in poor condition. The ceramic tile flooring is in poor condition, especially at the base, while the toilet partitions are in fair condition.

| Recommendation | Category |
|---|---|
| • Upgrade restrooms to meet current accessibility code requirements. | 1 |
| • Replace and/or upgrade interior and exterior finishes in fair or poor condition. | 2 |

## 2. General Site

### 2.1. Site Accessibility

Path-of-travel issues such as high thresholds are typical at all the older buildings on the campus. Additionally, the interior/exterior drinking fountains at some of the older buildings as well as signage in the administration building (Unit E) are non-compliant.

The concrete paving at walkways is in good condition in most areas with the exception of the older buildings (Units A-E) where it is in poor condition.

| Recommendation | Category |
|---|---|
| • Perform a detailed Accessibility Survey to identify and address all barriers to accessibility per CBC and DSA provisions. (Drinking fountains, signage, restrooms, and path-of- travel). | 1 |
| • Replace and repair concrete paving where it is either a safety hazard, barrier to accessibility, or compromises long term sustainability. | 1 |

### 2.2. Parking, Pick-Up/Drop-Off and Bus Loading

The campus has an adequate number of parking spaces per CDE guidelines and the required number of accessible spaces for the current enrollment population, although potential slope issues and non-compliant curb-cuts at the accessible parking spaces have been identified.In addition to parking lots, designated spaces for Grades 1-5 pick-up/drop-off, Kindergarten pick-up/drop-off and bus loading has been provided to allow students to enter and exit school grounds safely.

The asphalt paving in all areas is generally in good condition.

| Recommendation | Category |
|---|---|
| • Upgrade accessible parking spaces to meet current accessibility code requirements. | 1 |

### 2.3. Hard-Court, Play Equipment Areas and Fields

There is one general hard-court play area, an athletic field, and two play equipment spaces for grades 1-5 (both are shared). In addition, designated hard-court and play equipment spaces have been provided and fenced off for the kindergartners. In order to meet CDE's design guidelines for current enrollment, all play equipment spaces, as well as the kindergarten hard-court play area, should be expanded.

Play surfaces include asphalt paving which ranges in condition from good to poor and tanbark in fair condition.

| Recommendation | Category |
|---|---|
| • Replace and repair asphalt paving where it is either a safety hazard, barrier to accessibility, or compromises long term sustainability. | 1 |
| • Grades 1-3 and 4-5 should have separate designated play equipment areas. | 1 |
| • Remove tanbark in play equipment areas and replace with rubber surfacing for safety and accessibility purposes. | 1 |
| • Provide turf as recommended in Table A-2 within the kindergarten play area. | 3 |
| • Expand play areas as recommended in Table A-2. | 3 |

### 2.4. Covered Walkways

The roofing system on covered walkways is built-up roofing, and is in fair condition.

| Recommendation | Category |
|---|---|
| • Re-roof covered walkways. | 2 |

## Structural

The subject buildings were evaluated based on achieving a "life safety protection" performance objective. This performance objective represents minimum standards of seismic resistance generally recognized as providing adequate seismic risk protection to building occupants during large locally occurring earthquakes. The deficiencies identified in this report reflect the ASCE 31-03 Tier I results which were confirmed via rough code based analysis and/or ASCE 31-03 Tier II analysis as applicable.

### 1. Classroom Buildings (Units A, B, and C)

Buildings A, B, and C are single story wood framed classroom buildings built in 1955 and renovated in 1999. Based on ASCE Tier I analysis, Units A, B and C do not have any deficiencies, and no retrofits are required at this time.

**These buildings receive a subjective rating of 1[6]**

### 2. Staff Building (Unit D)

Building D is a single story wood framed staff building constructed in 1955 and renovated in 1999. Based on ASCE Tier I analysis, Unit D has some deficiencies. The building fails in the shear stress check.

**This building receives a subjective rating of 3**

| Recommendation | Category |
|---|---|
| • Add plywood sheathing on the inside of the existing shear walls with nailing at 3" o.c. in the E-W direction | 1 |

### 3. Administration Building (Unit E)

Building E is a single story wood framed administration building built in 1955 and renovated in 1999. Based on ASCE Tier I analysis, Unit E does not have any deficiencies, and no retrofits are required at this time.

**This building receives a subjective rating of 1**

### 4. Classroom Buildings (Units F and G)

Units F and G are single story wood framed classroom buildings with an original construction date of 1956 and a renovation date of 1999. Based on ASCE Tier I analysis, Units F and G do not have any deficiencies, and no retrofits are required at this time.

**These buildings receive a subjective rating of 1**

### 5. Classroom Buildings (Units H and I)

Units H and I are single story wood framed classroom buildings with an original construction date of 1955 and a renovation date of 1999. Based on ASCE Tier I analysis, Units H and I do not have any deficiencies, and no retrofits are required at this time.

**These buildings receive a subjective rating of 1**

[6] Refer to "Structural" section of the Methodology section of this report for system rating description.

**6. Classroom Building (Unit J)**
Unit J is a single story wood framed classroom building with an original construction date of 1962 and a renovation date of 1999. Based on ASCE Tier I analysis, Unit J does not have any deficiencies, and no retrofits are required at this time.
**This building receives a subjective rating of 1**

**7. Multi-Use Building (MUR – Unit K)**
Unit K is a single story wood and steel framed multi-use building built in 1958 and renovated in 1999. Based ASCE Tier I analysis, Unit K does not have any deficiencies, and no retrofits are required at this time.
**This building receives a subjective rating of 1**

**8. Classroom Buildings (Units L and N)**
Units L and N are single story wood framed classroom buildings built in 1999. Based on ASCE Tier I analysis, Units L and N do not have any deficiencies, and no retrofits are required at this time.
**These buildings receive a subjective rating of 1**

**9. Library and Computer Lab Building (Unit M)**
Unit M is a single story wood framed library and computer lab building built in 1999. Based on ASCE Tier I analysis, Unit M does not have any deficiencies, and no retrofits are required at this time.
**This building receives a subjective rating of 1**

**10. Kindergarten Classroom Building (Unit P)**
Unit P is a single story wood framed Kindergarten classroom building built in 1999. Based on ASCE Tier I analysis, Unit P does not have any deficiencies, and no retrofits are required at this time.
**This building receives a subjective rating of 1**

For full text of structural report and applicable ASCE 31-03 Tier I checklist sheets, see Appendix 4.

## Mechanical

The following reports and comments are based on observations of the general condition of the mechanical systems and noticeable code issues resulting from an on-site visit, review of the existing record drawings and feedback from Mountain View Whisman School District staff. Each existing HVAC system should be reviewed, tested, and upgraded to correct the possible problems due to faulty instruments, controls, and other installation issues.

### 1. HVAC Equipment

The site was modernized in 1998 and the mechanical systems (HVAC equipment, ductwork, air distribution and controls) were replaced at that time. The HVAC equipment is eleven years old. The typical life expectancy of HVAC equipment is fifteen years, if maintained per manufacturer, operation, and maintenance guidelines. The HVAC equipment has standard efficiency, but does not meet current Title 24 standards.
The existing HVAC equipment consists of three sets of gas/ electric furnace with condensing units serving the administration building. The Multi-Use Room is served by chiller and two air handling units. The classrooms, library, work room and teacher's lounge are served by self-contained Airedale Package heat pump units with a total of thirty-six Airedale Package units. The conference room and storage room are served by a split system: ceiling mounted fan coil and condensing units with a total of two split systems. For the IDF rooms, there is no air conditioning and no ventilation. Each restroom is served by exhaust fan with a total of nineteen exhaust fans. The kitchen area is served by one exhaust hood. The existing ductwork and air distribution appears as original condition; ductwork and registers are in ceiling or walls.

| Recommendation | Category |
|---|---|
| • At the end of life expectancy replace all HVAC units with high efficiency units to meet or exceed the current Title 24 requirements. High efficiency units will use less energy and save on energy costs. | **2** |
| • For the IDF rooms, provide a split system: cooling-only fan coil and roof mounted condensing unit, which will prevent overheating of telecommunication equipment. | **2** |
| • Due to leakage, dust and age, replace existing ductwork and air distribution when replacing HVAC units. | **2** |
| • Replace HVAC equipment that will qualify for Green Building Certification, either LEED or CHPS. | **3** |

**2. Energy Management System (EMS)**

The existing Energy Management System (EMS) is manufactured by Alerton Technology. The existing EMS is Digital Direct Control, Windows-based with dial-up modem. The existing EMS is slow and hard to maintain because it fails frequently.

| Recommendation | Category |
|---|---|
| • Replace existing Energy Management System (EMS) with new EMS, which is BACNet compatible with internet access through District network, easy to use, and password protected. The new EMS will be faster, easier to maintain and meet current technology changes. | **2** |

## Plumbing and Site Utilities

This report and comments are based on observations of the general condition of the plumbing systems and site utilities and noticeable code issues resulting from an on-site visit, review of the existing record drawings and feedback from Mountain View Whisman School District staff.

### 1. Plumbing System

The plumbing fixtures in the building were replaced, including domestic water and gas piping, in the 1998 modernization project. Hose bibs at the exterior walls of the buildings are without vacuum breaker device. Plumbing equipment, such as water heaters, are in good condition. Typical life expectancy of plumbing equipment can be between 5-10 years, depending on the type of equipment. Plumbing fixtures such as urinals and water closets are in good condition but do not meet the current water conservation standards.

| Recommendation | Category |
|---|---|
| • Provide vacuum breaker devices for all exterior hose bibs to prevent backflow into the potable water system. | 1 |
| • Replace plumbing equipment at the end of life expectancy. | 2 |
| • Replace existing plumbing fixtures, i.e., faucets, urinals, water closets, with high efficiency plumbing fixtures that meet green building certification like LEED or CHPS to reduce water consumption (i.e., install waterless urinals and low-consumption flush toilets). | 3 |

### 2. Gas

The gas piping distribution systems including underground gas main and branch lines were replaced in the 1998 modernization project. The site is supplied with one gas meter without earthquake-actuated gas shutoff valve and is located at the Southwest side of the MUR. Gas meter capacity is 800 CFH with 0.25 psi gas pressure supply to the MUR building only.

Gas piping has a typical life expectancy of 25-30 years. The gas system is for the Kitchen equipment only. Gas piping is steel pipe for underground and inside the Kitchen building.

| Recommendation | Category |
|---|---|
| • Provide an earthquake-actuated gas shutoff valve for the gas system to automatically shut off gas in the event of a seismic disturbance. | 1 |

### 3. Domestic Water

The site and in the building domestic water system was replaced in the 1998 modernization project. There is a 2" water meter located southeast of the MUR Building.

The exterior copper domestic water piping runs underground and branches-off to each building with a riser at the exterior wall and a shut-off valve below grade. The interior copper domestic water piping is supported below the roof and connected to each plumbing fixture in the building.

### 4. Sanitary Sewer

The site sanitary sewer system was not replaced in the modernization project. Typically, sanitary sewer systems have a life expectancy of 30-40 years depending on the piping material installed. In the 1960s and 1970s, sanitary main trunk lines were typically 6-inch vitrified clay pipe (VCP). Clay pipe has long been used for sanitary sewer mains and is still considered a competent product for this purpose. Depending on location, internal velocities, and adequate joints, VCP can have a life expectancy up to 40 years.

| Recommendation | Category |
|---|---|
| • For the sanitary sewer system, either perform a video survey to assess the type of piping material and the percentage to be replaced, or replace all piping. Apply high velocity water jetters to the system prior to a video survey. | 2 |

### 5. Storm Drainage

Typically, storm drainage systems have a life expectancy of 30-40 years depending on the piping material installed. Typical storm drainage piping materials include reinforced concrete pipe (RCP), corrugated metal pipe (CMP), polyvinyl chloride pipe (PVC), and high-density polyethylene pipe (HDPE).

| Recommendation | Category |
|---|---|
| • For the storm drainage system, either perform a video survey to assess the type of piping material and the percentage to be replaced, or replace all piping. Apply high velocity water jetters to the system prior to a video survey. | 2 |

## Electrical

This report and comments to follow are based on observations of the general condition of the electrical systems and site utilities and noticeable code issues resulting from an on-site visit, review of the existing record drawings and feedback from Mountain View Whisman School District staff.

### 1. Power

There are two electrical services for the campus. Both services were installed in 1999, each with 2000A, 208/120V, 3 phase, 4 wire system and are in good condition. The total electrical service is 4000A. Switchboard "MSBA" is located in the electrical room of Classroom Building L and serves Buildings A, B, C, D, F, G, L and M. Switchboard "MSBB" is located outside of MUR K and serves Buildings E, H, I, J, K and N. According to PG&E records, the current peak usage on the combined services is about 1100 amp and there is a spare capacity of 2000 amp for future usage. All the power distribution conduits were installed underground. Most of the areas had adequate power outlets for the current use. There were six (6) 20 amp circuits connected to each classroom. These were not used to the maximum capacity. All distribution and branch circuit panels are in good condition with spare capacity and breaker spaces for future need. Some of the electrical rooms were used for storage and violated the code requirement of 36" clearance in front of the panel board.

| Recommendation | Category |
|---|---|
| • Maintain code required clearance in front of all electrical panel boards and equipment. | 1 |

### 2. Lighting

The majority of the light fixtures are of fluorescent source with electronic ballast and T8 lamps. The lighting level is adequate for the task performed in each area and meets the requirement of current Title 24 efficiency standards. Interior fixtures are controlled by ceiling or wall mounted occupancy sensors with override switches. Classrooms with multiple entries have only one set of control switches at one location and this creates an inconvenience as well as possible safety concerns for the users. Exterior light fixtures are controlled by photocell and time clock via low voltage lighting control panel. The parking lot has adequate lighting for pedestrian safety.

| Recommendation | Category |
|---|---|
| • Provide three-way switching at areas with multiple entries. | 2 |
| • Connect exterior lighting to EMS system for energy savings and ease of campus control. | 2 |
| • Replace existing lighting fixtures with energy efficient lamps and ballasts of current technology to save operating cost. | 3 |

### 3. Fire Alarm

The campus is provided with a manual/automatic addressable fire alarm system with pull stations, smoke detectors, and notification devices. The existing Firelite MS9200 panel located in the Building L, MDF room is in working condition but it does not have capacity for campus automatic system conversion. The visual and audio notification device coverage on the campus does not comply with current code.

| Recommendation | Category |
|---|---|
| Replace existing fire alarm system with new network based addressable fire alarm system with adequate notification devices throughout the campus to meet the current code. | 1 |

### 4. Paging/Clock

Existing Bogen PA/Clock system located in Building L MDF room provides for campus announcements, master clock, and bell schedule. The campus has good announcement coverage and the system is in good condition.

### 5. Security

Bay Alarm provides a working, adequate security monitoring of the campus through motion sensors and door contacts. Bay Alarm provides the third-party monitoring and is hired by the District.

| Recommendation | Category |
|---|---|
| Replace existing system with Sonitrol audio motion sensors and door contacts to be monitored by Sonitrol as District standard. | 2 |

## Technology

These recommendations are based on the information obtained during the observation of the general condition of the schools and feedback from staff at Mountain View Whisman School District.

### 1. Structure Cabling

The copper cabling in this school is CAT5 and CAT 5E and was installed over ten years ago. Station cabling is installed in plastic wiremold on the walls, and station jacks are a mix of blocks and different style faceplates. Cable labeling is a mix of styles, and some cables are not labeled. There are six strands of 62.5/125 multi-mode fiber from each IDF to the MDF. There are RG-11s from the MDF to each IDF and RG-6 to each end station in the building for broadband distribution. There are 100 pairs on 110 block for voice termination. Overall, the structure cabling is in fair condition.

| Recommendation | Category |
|---|---|
| • Replace cabling to bring it up to current industry standards, in order to support the different applications (EMS, Video Safety, VoIP, web applications etc.). Recommendation is to upgrade the horizontal cabling to Category 6. | **3** |
| • Propose a plan to demolish and remove all abandoned cables. | **3** |
| • Upgrade the fiber backbone to the latest industry standards. | **3** |

### 2. IDF/MDF Environment

The MDF is located in building “L”.IDFs are typically located in the classroom, boiler/mechanical/electrical, or storage room and are dusty and dirty. Most locations are not easily accessible and some locations do not get filtered air. This will cause equipment fans to fail and device shut-down due to heat or the complete failure of a network switch. The failure of a network will cause that entire building to go off-line for an extended period until the device is replaced Some IDFs are not equipped with a UPS, grounding and proper horizontal wire manager and the wire managers are not used effectively creating a twisted and unmanageable wire system.

| Recommendation | Category |
|---|---|
| • Implement a solution that will safeguard the equipment located in the IDFs. | **2** |
| • Provide a clean, air-conditioned, and secure environment for network infrastructure or relocate the IDF. | **2** |
| • Provide appropriate electrical, grounding, and UPS solutions in each IDF. | **2** |

### 3. Video Safety System

The District does not have a video safety system in place for this school.

| Recommendation | Category |
|---|---|
| • Implement a network based video safety solution that will monitor the exterior and problem areas of the campus. | 3 |

### 4. Data Network

The school is using old and out of warranty 3Com switches, Cisco switches, and other mini Ethernet switches. The vents for the fans on the switches are clogged with dust and debris therefore reducing the life of each switch. With the shift toward web-based applications, there is a need for increased Internet bandwidth. To provide wireless connectivity, some IDFs are equipped with a buffalo wireless access point (AP).

| Recommendation | Category |
|---|---|
| • Replace the current switching solution with the District's new switching standard (HP ProCurve or equal) to support Gig connection to the desktop. | 3 |
| • Replace the current wireless solution with an enterprise solution that allows the school to efficiently deploy, secure, and centrally manage the wireless LAN and meets current industry standard such as 802.11n. | 3 |

### 5. Video Distribution System

Most classrooms are equipped with coaxial cable for cable services. It seems that most classrooms are not using the service. Classrooms are typically equipped with a wall mounted TV with a VCR.

| Recommendation | Category |
|---|---|
| • Upgrade the current (coaxial cable) video distribution system to a network based system utilizing the newly installed cabling standard. With a network based solution, the classroom can have access to educational video streaming services from the Internet to enhance the learning experience of students. | 3 |

### 6. Phone System

Phone system ,sipXecs IP PBX, was installed during the summer of 2009. Phones are Polycom 321/331 and 450s.

### 7. Smart Classroom

Currently there is minimal integration of technology into the classroom. Some of the classrooms have components (projector, TV, VCR/DVD player) of a smart classroom and are currently using them.

| Recommendation | Category |
|---|---|
| • Develop a plan to implement the latest instructional technology in the classrooms to meet educational goals | 3 |

# *Slater School*

(Children's Creative Learning Center and Special Education Programs)

**General Information**

| | |
|---|---|
| Address: | 325 Gladys Avenue<br>Mountain View, CA 94043 |
| Telephone: | |
| Grade Levels: | Preschool – Potentially K-5<br>(Currently CCLC) |
| 2008/2009 Enrollment: | N/A |

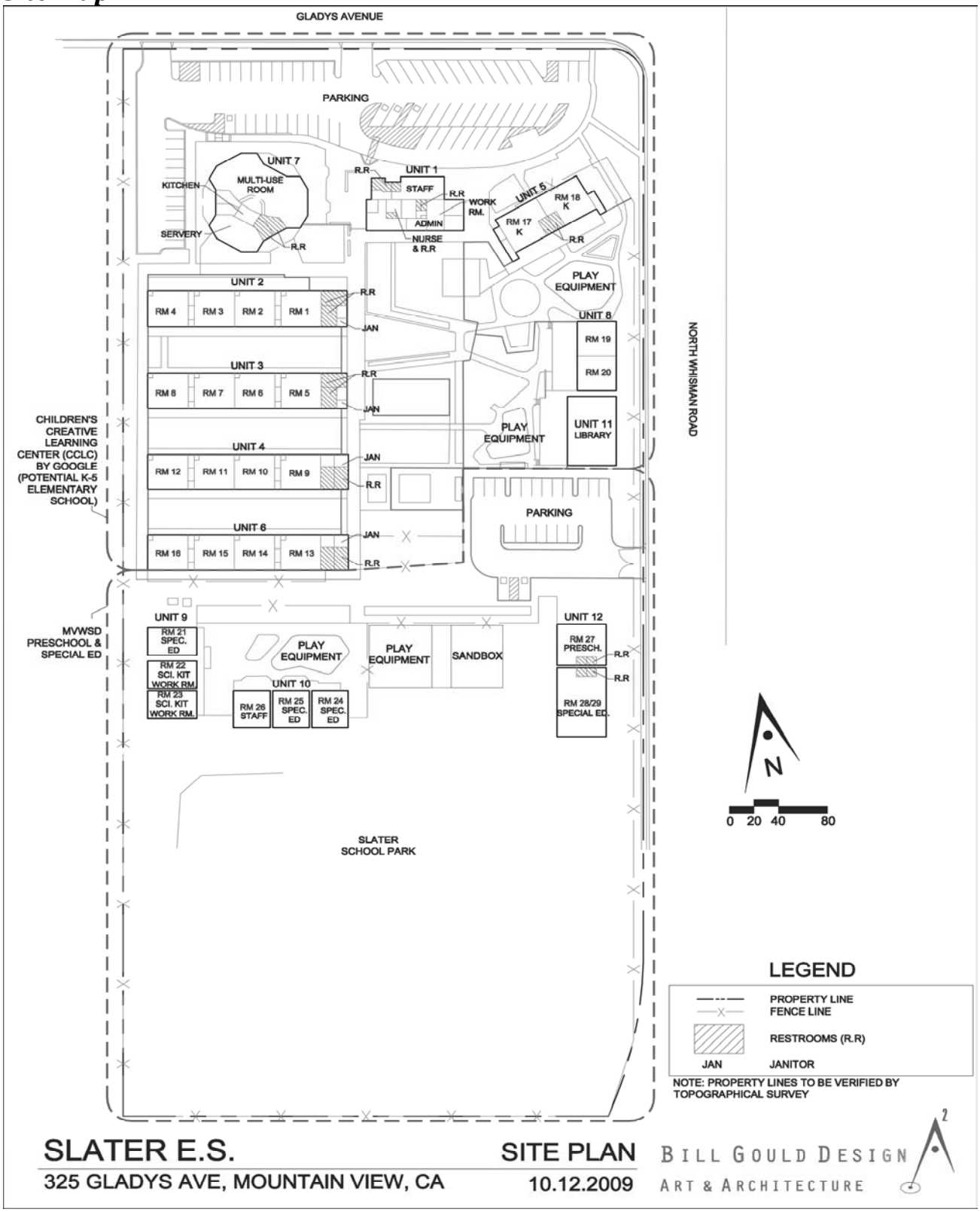
**Site Information:**

| | |
|---|---|
| Gross Acreage: | 8.84 Acres |
| Net Useable Acreage: | 8.84 Acres |

**Building Information:**

| | |
|---|---|
| Original Construction: | 1952 |
| Additions: | 1956-2007 |
| Gross Building Area: | 44,478 sq. ft. |
| Site-builtConstruction: | 30,558 sq. ft. |
| Modular Construction : | 13,920 sq. ft. |

## *Site Map*


GLADYS AVENUE
PARKING
UNIT 7
MULTI-USE ROOM
KITCHEN
SERVERY
R.R
UNIT 1
STAFF
R.R
WORK RM.
ADMIN
NURSE & R.R
UNIT 5
RM 18 K
RM 17 K
R.R
PLAY EQUIPMENT
UNIT 2
RM 4
RM 3
RM 2
RM 1
R.R
JAN
UNIT 8
RM 19
RM 20
UNIT 3
RM 8
RM 7
RM 6
RM 5
R.R
JAN
NORTH WHISMAN ROAD
CHILDREN'S CREATIVE LEARNING CENTER (CCLC) BY GOOGLE (POTENTIAL K-5 ELEMENTARY SCHOOL)
PLAY EQUIPMENT
UNIT 11 LIBRARY
UNIT 4
RM 12
RM 11
RM 10
RM 9
JAN
R.R
PARKING
UNIT 6
RM 16
RM 15
RM 14
RM 13
JAN
R.R
UNIT 9
RM 21 SPEC. ED
RM 22 SCI. KIT WORK RM.
RM 23 SCI. KIT WORK RM.
MVWSD PRESCHOOL & SPECIAL ED
PLAY EQUIPMENT
UNIT 10
RM 26 STAFF
RM 25 SPEC. ED
RM 24 SPEC. ED
PLAY EQUIPMENT
SANDBOX
UNIT 12
RM 27 PRESCH.
R.R
R.R
RM 28/29 SPECIAL ED.
SLATER SCHOOL PARK
N
0 20 40 80
LEGEND
PROPERTY LINE
FENCE LINE
RESTROOMS (R.R)
JAN
JANITOR
NOTE: PROPERTY LINES TO BE VERIFIED BY TOPOGRAPHICAL SURVEY
SLATER E.S.
SITE PLAN
325 GLADYS AVE, MOUNTAIN VIEW, CA
10.12.2009
BILL GOULD DESIGN
ART & ARCHITECTURE
2

## *Introduction*

Slater campus is located on the east side of Mountain View. It was originally constructed in 1952 and since the original construction a number of modernization and addition projects have taken place starting in 1956 and continuing through 2002. A portion of the campus serves children with special needs in the MVWSD. The rest of the facility was partially leased and remodeled by Google in 2007. The joint lease agreement requires Google to return the facilities to their original condition upon termination of their contract with Mountain View Whisman School District.

The campus currently operates as a Preschool and Special Education (Autism Services) program as well as a Children's Creative Learning Center (Google CCLC).

The site is 8.84 acres and consists of site-built and modular buildings. Buildings include a hexagonal shaped Multi-Use Room (MUR), a number of classrooms, an administration building, and a modular library.

## *Planning Process*

The assessment process included the review of drawings, site visits and field verification, meetings with District administrative staff and school committees, and, finally, evaluation of collected data. Following the assessment process, recommendations were developed to improve the conditions and educational suitability of each site. These recommendations were classified based on categories described in "Basis of Assessment" in the Methodology section of this report. The existing conditions were evaluated utilizing a Good, Fair, Poor rating system also described in the Methodology section.

School specific data such as existing and recommended number of buildings, space areas, and maximum and allowable occupancies have been specified in Tables "A-1 Classroom Occupancy" and "A-2 Space Utilization".

Information provided is based on District enrollment, District policies and the most recent codes and guidelines in effect at the time of this report. As these factors change, recommendations will be revised and reflected in the SFIP. The Conditions and Needs Analysis Report herein will serve as a working tool guiding the District's future Facilities Improvement Plan.

## *Summary*

While potential deficiencies were identified throughout the campus within this study, in no instance were they of a serious enough nature to warrant immediate action. Individual scopes of work and their projected costs will be developed as part of the upcoming SFIP to be implemented in future modernization projects.

**Table A-1 Classroom Occupancy**

| Use | | Room # | Bldg Type /number of Modulars | Modular Year Built[1] | Working Capacity[2] (# students) | Existing Classroom Area ( s.f)[5] | Recommended Area (s.f.)[4] | Modular Bldg Area (s.f) | Other (s.f.) |
|---|---|---|---|---|---|---|---|---|---|
| **Potential Use, as Slater Elementary School- Currently Google CCLC [6]** | | | | | | | | | |
| **Kindergarten** | | | | | | | | | |
| | K | 17 | Site built | | 20 | 1,260 | 1,350 | | |
| | K | 18 | Site built | | 20 | 1,260 | 1,350 | | |
| **Kindergarten Sub total** | | | **0** | | **40** | **2,520** | | | |
| **Grades 1-3** | | | | | | | | | |
| | 1 | 6 | site built | | 20 | 1,020 | 960 | | |
| | 1 | 7 | site built | | 20 | 1,020 | 960 | | |
| | 1 | 8 | site built | | 20 | 1,025 | 960 | | |
| | 1 | 9 | site built | | 20 | 985 | 960 | | |
| | 2 | 10 | site built | | 20 | 985 | 960 | | |
| | 2 | 11 | site built | | 20 | 985 | 960 | | |
| | 2 | 12 | site built | | 20 | 990 | 960 | | |
| | 2 | 13 | site built | | 20 | 985 | 960 | | |
| | 3 | 14 | site built | | 20 | 985 | 960 | | |
| | 3 | 15 | site built | | 20 | 985 | 960 | | |
| | 3 | 16 | site built | | 20 | 990 | 960 | | |
| **Grades 1-3 sub-total** | | | **0** | | **220** | **10,955** | | | |
| **Grades 4-5** | 4 | 1 | site built | | 30 | 1,020 | 960 | | |
| | 4 | 2 | site built | | 30 | 1,020 | 960 | | |
| | 4 | 3 | site built | | 30 | 1,020 | 960 | | |
| | 5 | 4 | site built | | 30 | 1,025 | 960 | | |
| | 5 | 5 | site built | | 30 | 1,020 | 960 | | |
| **Grades 4-5 Sub-total** | | | **0** | | **150** | **5,105** | | | |
| **Other:** | | | | | | | | | |
| | Flex. room | 20 | modular | 1968 | 30 | 960 | | 960 | |
| | Computer Lab | 19 | modular | 1968 | | | | 960 | |
| | Library | UNIT 11 | modular | 1992 | | | | 2,400 | |
| **Grades 4-5 Sub-total** | | | **3** | | **30** | **960** | | **4,320** | |
| **MVWSD Pre-school and Autism Services TO REMAIN AS CURRENT UTILIZATION** | | | | | | | | | |
| | Special Ed | 21 | modular | 1989/90 | | 960 | | 960 | |
| | Special Ed | 24 | modular | 1998 | | 960 | | 960 | |
| | Special Ed | 25 | modular | 1998 | | 960 | | 960 | |
| | Preschool | 27 | modular | 1998 | | 1,440 | | 1440 | |
| | Special Ed | 28/29 | modular | 1998 | | 2,400 | | 2400 | |
| | Staff Lounge | 26 | modular | 1998 | | | | 960 | |
| **Preschool and Autism Sub Total:** | | | **6** | | | **6,720** | | **7,680** | |
| Other: | | | | | | | | | |
| Science Kit/Work room | | 22 | modular | 1992 | | | | 960 | |
| Science Kit/Work room | | 23 | modular | 1998 | | | | 960 | |
| | restrooms, storages, elec- not included in other bldgs area | | | | | | | | 3,696 |
| **Other** | | | **2** | | | | | **1,920** | **3,696** |
| **TOTAL** | | | **8** | | **440** | **26,260** | | **13,920** | |

Notes:

1- Certification plates as well as available construction documents were checked to verify modular DSA #s and year of installation

2- Working Capacity (Class Size Reduction)=20 students/class for grades K-3 and 30 students/class for grades 4-5, for potential occupany of an elementary school.

3- Not used

4- Per Title 5, California Code of Regulations (CCR) for new schools. (used as guidelines in this spreadsheet)

5- Existing area is calculated based on space layouts prior to Google modernization.

6- Number of classrooms designated to each grade level is estimated based on other MVWSD elementary schools

**Table A-2 Space Utilization**

| Use | Bldg Component | Current Number of Classes | Number of Modulars | Bldg Component Area(s.f.) | Existing Area (s.f.) | Current Enroll. | Working Capacity[8] (# students) | Recommended Area (s.f.) | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **Potential Slater E.S.-Current Google CCLC [11]** | | | | | | | | | |
| **K** | | 2 | | | 2,520 | n/a | 40 | | |
| **1-3** | | 11 | | | 10,955 | n/a | 220 | | |
| **4-5** | | 5 | | | 5,105 | n/a | 150 | | |
| **Sub-Total:** | | **18** | | | **18,580** | | **410** | | |
| **Special Programs** | | | | | | | | | |
| Flex (Art/science..) | | 1 | 1 | | 960 | | 30 | | |
| Preschool (to remain) | | 1 | 1 | | 1,440 | 18 | | 930 | Open space = 1190 s.f.<br>Area recommended is based on current enrollment. |
| Special Ed (to remain) | | 4 | 4 | | 5,280 | n/a | | | |
| Computer Lab | | 1 | 1 | | 960 | | | | |
| **Sub-Total:** | | **7** | **7** | | **8,640** | | **30** | | |
| **Administration /staff lounge/work room** | | | | | 3,320 | | | | |
| **Special Ed. Staff Lounge- to remain** | | | 1 | | 960 | | | | |
| **Science Kit /work room** | | 2 | 2 | | 1,920 | | | | |
| **Library[6]** | | | 1 | | 2,400 | | | 960 | |
| **Multi use** | | | | | 4,962 | | | | |
| | Assembly [7] | | | 3070 | | | | 3,080 | Area recommended to accommodate potential working capacity population in assemblies.<br>Area required to accommodate 1/3 potential working capacity during lunch periods= 2,200 s.f. |
| | Servery | | | 930 | | | | | |
| | Other (restroom, storage,office, kitchen) | | | 962 | | | | | |
| **Restrooms,storages--not included in bldg areas** | | | | | 3,696 | | | | |
| **Sub-Total:** | | **2** | **4** | | **17,258** | | | | |
| **Total** | | **27** | **11** | | **44,478** | | **440** | | |

| **General:** | **Existing** | **Recommended** |
|---|---|---|
| Property | 8.84 ac | |
| Parking [1] | 96 stalls | 61 stalls |
| Accessible Parking[2] | 6 stalls | 3 stalls |

| **Existing Buildings:** | **# of modulars** | **% of Total** | **Bldg Area (s.f.)** |
|---|---|---|---|
| Total Building Area: | | | 44,478 |
| Modulars | 11 | 31% | 13,920 |
| Site-built | | 69% | 30,558 |

| **Play Areas:** | **Grade Level** | **Existing (s.f.)** | **CDE Recommended area(s.f.) [4]** |
|---|---|---|---|
| Play Equipment Area [12] | Preschool | 1,550 | 2,550 |
| | Special Ed. | 2,775 | based on enrollment/grade level |
| | K | 1,750 | 2,500 |
| | 1-3 | -- | 9,600 |
| | 4-5 | 1,000 | 6,400 |
| Hardcourt[13] | K | -- | 4,000 |
| | 1-5 | 39,550 | 34,000 |
| Fields/Turf | K | -- | 5,500 |
| | 1-5 | 139,000 | 86,400 |

| **Students /Staff** | | |
|---|---|---|
| working capacity | 440 | **"Medium"** size school per CDE |
| Staff [3] | 50 | |

| **Restrooms :** | **Existing # Toilets, # Urinals (U)** | **Required [9] # Toilets, # Urinals (U)** |
|---|---|---|
| Pre-school[10] | 2 | 2 |
| Special Ed. | 2 | 5, 1U |
| Kinder | 6 | 2 |
| Potential 1-5 | 38, 14U | 15 , 3U |
| Staff | 6 | 2, 1U |
| **Classrooms** | | |
| Undersize classes (< 945 s.f.) | | 0 |

**Notes:**

1- Number of parking stalls recommended per CDE guidelines based on number of teaching stations.

2- Number of accessible parking spaces required per CBC based on number of parking stalls

3- Number of staff estimated for calculation purposes only.

4- Recommended play area based on working capacity per CDE guidelines and Child Care Licensing requirements.

5- Not used

6- Recommended area is based on Title 5, CCR, for new middle schools, used as guideline only. Minimum 960 s.f. for elementary schools

7- Recommended area is determined per California Building Code (CBC) based on working Capacity. Max allowable occupants per CBC in the existing assembly area: for assemblies= 438 ,dining = 204

8- Working Capacity (Class Size Reduction)=20 students/class for grades K-3 and 30 students/class for grades 4-5.

9- Required number of fixtures is calculated based on space areas and their Occupant Load Factor (OLF) as indicated in CPC.

10- Recommended number of fixtures is based on current pre-school enrollment per Child Care Liscensing requirements.

11- Number of classrooms designated to each grade level is estimated based on other MVWSD elementary schools, SDC, RSP and Speech to be determined.

12- There are 4 play equipment areas, grade levels have been designated based on assumption only.

13- Potential hard court , per original Slater layout (pre-Google modernization)

## *Assessment Summary*

Existing facilities were evaluated from functional, code compliance, architectural, and engineering perspectives. Summary of the findings along with proposed recommendations of each division are provided herein.

Recommendations provided are based on the eventual reoccupation of the Google campus by Mountain View Whisman School District, as an Elementary School, with the assumption that MVWSD's special education (Autism Services) will remain.

# Architectural

### 1. Buildings

#### 1.1. Classrooms[1]

There are twenty-seven potential classrooms of which seven are modular buildings. Most classrooms meet the CDE area recommendations, though the two kindergarten classrooms are smaller than recommended.

- **Site-built Classrooms (Units 2, 3, 4, 5 and 6)**
  The last modernization project for the site-built classroom buildings was conducted by Google in 2007. Modernization included upgrades to the interior and exterior finishes, addition of exterior sinks, laundry rooms, and finally restrooms in all classrooms.

  The roofing system on these buildings consists of composition shingle, which is in good condition, and built-up roofing, which is in fair condition. Exterior finishes include single-glazed storefront doors in good to fair condition, stucco that is in good condition, and wood single-glazed hopper windows which are in fair condition.

  Interior finishes in these buildings include glue up acoustical tile, single-glazed storefront doors, gypsum board wall, and linoleum flooring, all of which are generally in good condition. Restroom interiors include ceramic tile and FRP wall panels, ceramic tile and sheet vinyl flooring, all of which are in good condition.

  The accessories include curtains that are in fair condition and solid phenolic partitions which are in good condition.

- **Modular Classrooms – Google CCLC (Unit 8)**
  Unit 8 modular buildings were built in 1968 and upgraded by Google in 2007. Due to the recent upgrades in these buildings most of the interior and exterior finishes are in good condition.

[1] Classrooms referred to herein are spaces where grade level and/or special programs are taught, regardless of room size.

- **Modular Classrooms – Preschool and Special Ed. (Unit 9,10 and 12)**
  The Unit 9, 10 and 12 modular buildings were built between 1989 and 1998. The roofing system on these buildings consists of standing seam metal and is in good condition in most places. Exterior finishes include T-111 siding, which is in good condition, sliding doors and aluminum double-glazed windows, all of which are in fair condition.

  The interior finishes include suspended acoustical tile ceiling, carpet and VCT flooring, all of which are in fair to poor condition. The interior doors are in good condition, the tackable wall covering is in fair condition, and casework is in good to fair condition. The restroom interiors such as FRP wall panels, sheet vinyl flooring, and toilet partitions, are all in good condition.

  The accessories including whiteboards, chalkboards, screens, and mini blinds are all generally in fair condition.

| **Recommendation** | **Category[2]** |
|---|---|
| • Add/expand kindergarten classrooms to meet area requirements. | **1** |
| • Replace and/or upgrade interior and exterior finishes where in fair or poor condition. | **2** |
| • Remove and replace modular buildings installed prior to 1995. | **2** |

### 1.2. Multi-Use Room (MUR-Unit 7)

The Multi-Use Room is a hexagonal shaped building originally built in 1965 and modernized in 2002. The finishes were upgraded again in 2007 by Google. The MUR modernization included interior and exterior finish upgrades, restroom renovations, and the creation of a servery and kitchen. The design of this building is similar to four other schools within the District. The MUR includes a servery, kitchen, restrooms and an assembly area which is currently being used for occasional assemblies only. The assembly open space is not large enough to accommodate the entire school population of the potential elementary school during assemblies, although it is sufficient to accommodate one-third of the potential school population during lunch periods. The main non-conformities in this building include non-compliant exiting (exterior arches are too close to exit doors and adequate landing space has not been provided) and inadequate clear spaces at restrooms.

The roofing system on this building is composition shingle. Due to recent upgrades, it is generally in good condition. Exterior finishes include doors and wood single-glazed windows, all in fair condition.

[2] Refer to Basis of Assessment in the Methodology section for category description.

Interior finishes include glue up acoustical tile and gypsum board ceilings, gypsum board and FRP wall panels, and Sheet vinyl flooring, all of which are in good condition. The VCT flooring is in good to fair condition.

| Recommendation | Category |
|---|---|
| • Renovate the MUR to provide code compliant exiting and restrooms. | 1 |
| • Replace and/or upgrade interior and exterior finishes in fair or poor condition. | 2 |
| • Replace accessories in fair to poor condition. | |
| • Expand MUR to accommodate the entire population of a potential school during assemblies. | 3 |

### 1.3. Administration (Unit 1)

The administration building was originally constructed in 1952 with additions and modernization conducted in 1992 and 2007. The building is located near the main entrance, west of the campus and comprises of administrative offices (three offices+ one conference room), a staff lounge, work room, and a nurse's room.

There are sufficient restrooms to meet future staff population for a potential elementary school per CPC requirements.

The roofing system on this building is comprised of composition shingle, which is in good condition and built up roofing, that is in fair condition. Exterior finishes include stucco, aluminum and wood single-glazed windows, all of which are in good condition, and doors which are in good to fair condition.

Interior finishes include glue up acoustical tile ceiling, gypsum board wall and plastic laminate casework, all of which are in good condition. The storefront doors are in good to fair condition, and the carpet tile and linoleum flooring are in fair condition.

The accessories such as roller blinds and appliances are all in good condition.

| Recommendation | Category |
|---|---|
| • Replace and/or upgrade interior and exterior finishes in fair or poor condition. | 2 |

### 1.4. Library (Unit 11)

The library is housed in a modular building that was built in 1992 and upgraded by Google in 2007. Due to recent upgrades, most interior and exterior finishes are in good condition. The size of the library meets CDE's area requirements.

### 1.5. Restrooms

The restrooms were added to most CCLC classrooms as part of the 2007 modernization project. Prior to the reoccupation of the site by an elementary school, the buildings should be returned to their original layout. In the original layout student restrooms were only located at the ends of site-built classroom wings and in the MUR. The Kindergarten and preschool classrooms should maintain their dedicated restrooms within their building.

There are sufficient restrooms to meet current preschool population requirements, as well as the potential elementary school's working capacity, however, there are not sufficient restrooms to meet the current special education population education within the facility. There are an adequate number of accessible restrooms per CPC and DSA regulations, although designated restrooms for the special education program staff have not been provided.

Due to recent upgrades, most interior/exterior finishes are in good condition.

| Recommendation | Category |
|---|---|
| • Provide designated staff restroom for Special Education Program Staff. | 1 |
| • Provide designated restrooms for special education programe students. | 1 |

## 2. General Site

### 2.1. Site Accessibility

Path-of-travel issues such as high thresholds and non-accessible gates were identified. Additionally, drinking fountains at the MUR and signage, where provided, are not code compliant.

The concrete paving at walkways is in good condition with the exception of the administration building and Unit 5 areas.

| Recommendation | Category |
|---|---|
| • Perform a detailed Accessibility Survey to identify and address all barriers to accessibility per CBC and DSA provisions. (Drinking fountains, signage, restrooms, and path-of- travel). | 1 |
| • Replace and repair concrete paving where it is either a safety hazard, barrier to accessibility, or compromises long term sustainability. | 1 |

### 2.2. Parking, Pick-Up/Drop-Off and Bus Loading

The campus has an adequate number of parking spaces per CDE guidelines and the required number of accessible spaces required for the occupancy of a potential elementary school. The middle parking lot is currently designated to the preschool and special education programs (added in 2007) and the north parking lot is dedicated to the CCLC.

Pick-up/drop-off is combined with the bus loading area located in the north parking. CDE recommends these areas be separated to allow students to enter and exit school grounds safely.

| Recommendation | Category |
|---|---|
| • Provide separate pick-up/drop-off, bus loading, and parking areas. | 1 |

### 2.3. Hard-Court, Play Equipment Areas and Fields

The site, when returned to its original condition, will have one general hard-court play area, an athletic field, and four play equipment spaces for different grade levels. In order to meet CDE's design guidelines for potential occupancy of an elementary school, all play equipment spaces should be expanded.

Current play equipment areas have rubberized surfaces which are in good condition.

| Recommendation | Category |
|---|---|
| • Provide a separate kindergarten play area comprised of both turf and hard-court to allow for better supervision and a safer outdoor environment. | 1 |
| • Expand play areas as recommended in Table A-2. | 3 |

### 2.4. Covered Walkways

The system on the covered walkways is (built-up roofing) is in poor condition. There are several roof-mounted conduits mounted on the walkway roofs throughout the campus.

| Recommendation | Category |
|---|---|
| • Remove roof mounted conduits and re-roof. | 2 |

## Structural

The subject buildings were evaluated based on achieving a "life safety protection" performance objective. This performance objective represents minimum standards of seismic resistance generally recognized as providing adequate seismic risk protection to building occupants during large locally occurring earthquakes. The deficiencies identified in this report reflect the ASCE 31-03 Tier I results which were confirmed via rough code based analysis and/or ASCE 31-03 Tier II analysis as applicable.

### 1. Administration Building (Unit 1)

Unit 1 is a single story wood framed administration building with an original construction date of 1952 and an addition and remodel constructed in 1992. Based on the ASCE Tier I analysis, Unit 1 does not have any deficiencies. No retrofits are required at this time.
**This building receives a subjective rating of 1[3]**

### 2. Classroom Buildings (Units 2 and 3)

Units 2 and 3 are single story wood framed classroom buildings with an original construction date of 1952. Based on the ASCE Tier I analysis, Units 2 and 3 do not have any deficiencies. No retrofits are required at this time.
**These buildings receive a subjective rating of 1**

### 3. Classroom Building (Unit 4)

Unit 4 is a single story wood framed classroom building with an original construction date of 1956. Based on the ASCE Tier I analysis, Unit 4 does not have any deficiencies. No retrofits are required at this time.
**This building receives a subjective rating of 1**

### 4. Classroom Building (Unit 5)

Unit 5 is a single story wood framed classroom building with an original construction date of 1956. Based on the ASCE Tier I analysis, Unit 5 has one deficiency. The shear walls along the transverse direction do not meet the shear stress check.
**This building receives a subjective rating of 3**

| Recommendation | Category |
|---|---|
| • Adding plywood sheathing on the inside faces of the existing shear walls along the transverse direction with nailing at 4" o.c. | 1 |

### 5. Classroom Building (Unit 6)

Unit 6 is a single story wood framed classroom building with an original construction date of 1959. Based on the ASCE Tier I analysis, Unit 4 does not have any deficiencies. No retrofits are required at this time.
**This building receives a subjective rating of 1**

[3] Refer to 'Structural' division of the Methodology section of this report for system rating description.

**6. Multi-Use Building (Unit 7)**

The Multi-Use Building (MUR) is a single story steel building constructed from 1965 to 1967 with approximately 4,962 square feet of floor area. This is one of four identical buildings located at different elementary school sites (Huff, Bubb, Slater, and Landels) and this report applies to all four conditions. The building consists of a wood framed roof diaphragm and steel wide flange beam and tube steel cantilever columns. The roof diaphragm is supported by the steel beams. The foundation system consists of perimeter continuous footings as well as spread footings beneath the tube steel columns.

The buildings were found to have varying conformance to the ASCE 31 guidelines. The greatest deficiency is the existing tube steel 8x8 cantilever columns that do not have the strength or the stiffness required to adequately resist the lateral loads expected to occur during an earthquake. This type of construction is also more flexible than other building types and this flexibility can lead to large drifts during an earthquake, causing extensive structural and non-structural damage.

**This building receives a subjective rating of 3**

| Recommendation | Category |
|---|---|
| • Sheath selected solid exterior walls with plywood to create shear walls to achieve a life-safety performance level. | 1 |

For full text of structural report and applicable ASCE 31-03 Tier I checklist sheets, see Appendix 4.

## Mechanical

The following reports and comments are based on observations of the general condition of the mechanical systems and noticeable code issues resulting from an on-site visit, review of the existing record drawings and feedback from Mountain View Whisman School District staff. Each existing HVAC system should be reviewed, tested, and upgraded to correct the possible problems due to faulty instruments, controls, and other installation issues.

### 1. HVAC Equipment

The site was modernized in 2002 and the mechanical systems (HVAC equipment, ductwork, air distribution and controls) were replaced at that time. The HVAC equipment is seven years old. The typical life expectancy of HVAC equipment is fifteen years, if maintained per manufacturer, operation, and maintenance guidelines. The HVAC equipment has standard efficiency but does not meet current Title 24 standards.
The existing HVAC equipment consists of two rooftop gas/electric package air-conditioning units serving the administration area. There are four rooftop heat pump units serving the Multi-Use Room. The classrooms are served by a split system: furnace and rooftop condensing unit, with a total of eighteen split systems. The administration IDF room is served by a split system: cooling-only fan coil and roof mounted condensing units. For the rest of the IDF rooms in each building, there is no air conditioning or ventilation. Each restroom is served by an exhaust fan; there are total of seventeen exhaust fans. Each modular building is served by a wall mounted self contained heat pump; there are a total of nine heat pumps. The existing ductwork and air distribution appear to be in original condition. The ductwork in the soffit does not span the entire wall of the classroom, and two of the registers are too close together.

| Recommendation | Category |
|---|---|
| • At the end of life expectancy replace all HVAC units with high efficiency units to meet or exceed the current Title 24 requirements. High efficiency units will use less energy and save on energy costs. | **2** |
| • For the IDF rooms, provide a split system: cooling-only fan coil and roof mounted condensing unit, which will prevent overheating of telecommunication equipment. | **2** |
| • When replacing HVAC equipment, provide additional registers to insure proper air distribution. | **2** |
| • Replace HVAC equipment with new that will qualify for Green Building Certification, either LEED or CHPS. | **3** |

**2. Energy Management System (EMS)**

Currently, there is no Energy Management System on site. All HVAC Equipment have individual panels controlling the units. With no centralized Energy Management System (EMS), it's difficult to monitor equipment or easily detect when there is something wrong with the HVAC Equipment.

| Recommendation | Category |
|---|---|
| • Install new Energy Management System (EMS), which is BACNet compatible with internet access through District network, easy to use, and password protected. | 2 |

## Plumbing and Site Utilities

This report and comments to follow are based on observations of the general condition of the plumbing systems and site utilities and noticeable code issues resulting from an on-site visit, review of the existing record drawings, and feedback from Mountain View Whisman School District staff.

### 1. Plumbing System

The plumbing fixtures in the building were replaced in the 2002 modernization project. Plumbing equipment, such as water heaters, is in good condition. Typical life expectancy of Plumbing equipment can be between 5-10 years, depending on the type of equipment. Plumbing fixtures such as urinals and water closets are in good condition but do not meet current water conservation standards.

| Recommendation | Category |
|---|---|
| • Replace plumbing equipment at the end of life expectancy. | 2 |
| • Replace existing plumbing fixtures, i.e., faucets, urinals, water closets, with high efficiency plumbing fixtures that meet green building certification like LEED or CHPS to reduce water consumption (i.e., install waterless urinals and low-consumption flush toilets). | 3 |

### 2. Gas

The site is supplied with one gas meter with earthquake-actuated gas shutoff valve and is located at the northeast side of Classroom Wing Unit 2. The existing site underground gas main and distribution to each building were replaced in the 2002 modernization project.

Gas piping has a typical life expectancy of 25-30 years. The exterior steel gas piping runs underground and branches-off to each building. The interior steel gas piping is located inside the building and below the roof and connects to the mechanical equipment. Gas piping on site is in good condition.

### 3. Domestic Water

The site and building domestic water system was replaced in 2002 modernization project. The site is supplied with one 2” water meter that is located east of the campus near Whisman Road.

The domestic water piping has a typical life expectancy of 25-30 years. The exterior copper domestic water pipe runs underground and branches-off to each building with a riser at the exterior wall and a shut-off valve below grade. The interior copper domestic water pipe is supported below the roof and connected to each plumbing fixture in the building.

**4. Sanitary Sewer**

The site sanitary sewer system was not replaced in the modernization project. Typically, sanitary sewer systems have a life expectancy of 30-40 years depending on the piping material installed. In the 1960s and 1970s, sanitary main trunk lines were typically 6-inch vitrified clay pipe (VCP). Clay pipe has long been used for sanitary sewer mains and is still considered a competent product for this purpose. Depending on location, internal velocities, and adequate joints, VCP can have life expectancy up to 40 years.

| Recommendation | Category |
|---|---|
| • For the sanitary sewer system, either perform a video survey to assess the type of piping material and the percentage to be replaced or replace all piping. Apply high velocity water jetters to the system prior to a video survey. | **2** |

**5. Storm Drainage**

Typically, storm drainage systems have a life expectancy of 30-40 years depending on the piping material installed. Typical storm drainage piping materials include reinforced concrete pipe (RCP), corrugated metal pipe (CMP), polyvinyl chloride pipe (PVC), and high-density polyethylene pipe (HDPE).

| Recommendation | Category |
|---|---|
| • For the storm drainage system, either perform a video survey to assess the type of piping material and the percentage to be replaced or replace all piping. Apply high velocity water jetters to the system prior to a video survey. | 2 |

## Electrical

This report and comments to follow are based on observations of the general condition of the electrical systems and site utilities and noticeable code issues, resulting from an on-site visit, review of the existing record drawings, and feedback from Mountain View Whisman School District staff.

### 1. Power

A 2000A, 208/120V, 3 phase, 4 wire switchboard located outside of the Kindergarten building provides power to the campus. The switchboard was installed in 2002 and is in good condition. According to PG&E records, the current peak usage on the system is about 700 amps and there is a spare capacity of 900 amps for future usage. Building Units 1 thru 6 and modular buildings along Whisman road were occupied by one tenant and all the modular buildings at the south of the campus were used for District programs. UPS systems are installed for both interior and exterior lighting by the tenant and are in good condition. The majority of the power distribution conduits were installed underground with a few power and low voltage system conduits installed on roof or above the covered walkway. Most of the areas had adequate power outlets for the current use. There were four (4) 20 amp circuits connected to each classroom. These were not used to the maximum capacity. All distribution and branch circuit panels are in good condition with spare capacity and breaker spaces for future need. Some of the electrical rooms were used for storage and violated the code requirement of 36" clearance in front of the panel board. Some of the power outlets in the District modular buildings were not usable and required repair work.

| Recommendation | Category |
|---|---|
| • Maintain code required clearance in front of all electrical panel boards and equipment. | **1** |
| • Repair disconnected power outlets at modular buildings for proper function. | **1** |
| • Remove electrical distribution conduits from roof to under canopy or underground to avoid re-roofing problems. | **3** |

### 2. Lighting

The lighting system on the campus has been upgraded by the tenant with energy efficient fluorescent source with electronic ballast and T8 lamps. The lighting level is adequate for the task performed in each area and meets the minimum requirement of current Title 24 efficiency standards. Interior fixtures are controlled by ceiling or wall mounted occupancy with override switches. Exterior light fixtures are controlled by photocell and time clock via low voltage lighting control panel. All light fixtures are connected to the UPS system in each wing for operation during power failure.
The parking lot does not have adequate lighting for pedestrian safety.

| Recommendation | Category |
|---|---|
| • Provide additional fixtures in the parking lot to improve campus safety. | 1 |
| • Connect exterior lighting to EMS system for energy saving and ease of campus control. | 2 |
| • Replace existing lighting fixtures with energy efficient lamps and ballasts of current technology to save operating cost. | 3 |

### 3. Fire Alarm

The campus is provided with a manual/automatic addressable fire alarm system with pull stations, smoke detectors, and notification devices. There are two FCI 7200 panels, one located in the administration office for the tenant buildings and a second FCI 7299 panel is located in the modular building classroom for all the modular buildings occupied by the District. Both panels are in good condition but they are obsolete with no current state fire marshal listing. The visual and audio notification device coverage on the campus does not comply with current code.

| Recommendation | Category |
|---|---|
| • Replace existing fire alarm system with new network based addressable fire alarm system with adequate notification devices throughout the campus to meet the current code. | 1 |

### 4. Paging/Clock

Existing Bogen PA/Clock system located in the electrical room in the administration building has been disconnected by the tenant and is not in use.

### 5. Security

Security motion sensors, door contacts, card readers and overhead cameras are installed by the tenant via tenant's own security monitoring system. There is no security monitoring at the District modular buildings.

| Recommendation | Category |
|---|---|
| Provide Sonitrol security system at the District modular buildings with audio motion sensors and door contacts to be monitored by Sonitrol as District standard. | 2 |

## Technology

These recommendations are based on the information obtained during the observation of the general condition of the schools and feedback from staff at Mountain View Whisman School District.

### 1. Structure Cabling

The copper cabling in the Google leased portion of this school is CAT5 and CAT5E and was installed over seven years ago. Station cabling is installed in plastic wiremold on the walls and station jacks are a mix of blocks and different style faceplates. Cable labeling is a mix of styles and some have no labeling or missing labels. There are six strands of 62.5/125 multi-mode fiber from each IDF to the MDF. There are RG-11s from the MDF to each IDF and RG-6 to each end station in the building for broadband distribution. Two of three wings of the portables do not have fiber backbone. Overall, the structure cabling is in fair condition.

The copper cabling at the MVWSD occupied portion of this school is Cat 5. The station jacks are a mix of blocks and different style faceplates. The cable labeling is a mix of styles, and some cables are not labeled. There are six strands of 62.5/125 multi-mode fiber from the modular to the IDF room in the leased portion of the school to Google. It seems that there are not enough data drops for each classroom.

| Recommendation | Category |
|---|---|
| • Replace cabling to bring it up to current industry standards, in order to support the different applications (EMS, Video Safety, VoIP, web applications etc.). Recommendation is to upgrade the horizontal cabling to Category 6. | **3** |
| • Demolish and remove all abandoned cables. | **3** |
| • Upgrade the fiber backbone to the latest industry standards. | **3** |

### 2. IDF/MDF Environment

The MDF is located in the administration building. IDFs are typically located in the classroom, boiler/mechanical/electrical, or storage room and are dusty and dirty. Most locations are not easily accessible and some locations do not get filtered air. This will cause equipment fans to fail and device shut-down due to heat or the complete failure of a network switch. The failure of a network will cause that entire building to go off-line for an extended period until the device is replaced. One of the IDFs has a water heater in close proximity to the network equipments. Some IDFs are not equipped with a UPS, grounding, and proper horizontal wire manager, and the wire managers are not used effectively, creating a twisted and unmanageable wire system. There is one IDF servicing the modular buildings. It is located in a classroom.

| Recommendation | Category |
|---|---|
| • Implement a solution that will safeguard the equipment located in the IDFs. | 2 |
| • Provide a clean, air-conditioned, and secure environment for network infrastructure, or relocate the IDF. | 2 |
| • Provide appropriate electrical, grounding, and UPS solutions in each IDF. | 2 |

### 3. Video Safety System

A video safety system was installed by Google. The site is monitored by Google's HQ office.

| Recommendation | Category |
|---|---|
| • Implement a network based Video Safety solution that will monitor the exterior and problem areas of the campus. | 3 |

### 4. Data Network

All network equipment is Cisco and current. Per comment from staff onsite, Google recently installed the equipment. For the MVWSD modulars, a Cisco 2924XL switch provides connectivity for the classroom. In a few locations, additional hub/switch were added to the station side to provide additional ports since there is only one data port on the wall.

| Recommendation | Category |
|---|---|
| • Replace the current switching solution with the District's new switching standard (HP ProCurve or equal) to support Gig connection to the desktop for the IDF that serves the modulars. | 3 |

### 5. Video Distribution System

Most classrooms are equipped with coaxial cable for cable services. We had limited access to the classroom and therefore could not validate if all classrooms are using the system. There is not a video distribution system for the MVWSD portion of the site.

| Recommendation | Category |
|---|---|
| • Upgrade the current (coaxial cable) video distribution system to a network based system utilizing the newly installed cabling standard. With a network based solution, the classroom can have access to educational video streaming services from the Internet to enhance the learning experience of students. | 3 |

**6. Phone System**

Phone system in the MVWSD occupied portion of the site is in fair to poor condition, also hardware and software support for the system may not be readily available. It is 3com SuperStack 3 NBX running version 4.2 with VoIP system was deployed over 6 years ago. The failure of the phone system will cause District wide phone outage.

Unable to determine what version or type of phone system is in use in the Google leased portion of the site, but from visual inspection it seems that they are using a Cisco VoIP solution.

| Recommendation | Category |
|---|---|
| • For the modulars occupied by MVWSD, install and implement the District's current phone system, sipXecs IP PBX, at this school | 3 |

**7. Smart Classroom**

Currently there is minimal integration of technology into the classroom. Some of the classrooms have components (projector, TV, VCR/DVD player) of a smart classroom and are currently using them.

| Recommendation | Category |
|---|---|
| • Develop a plan to implement the latest instructional technology in the classrooms to meet educational goals. | 3 |

# *Stevenson Elementary School*

**General Information**

| | |
|---|---|
| Address: | 750-B San Pierre Way<br>Mountain View, CA 94043 |
| Telephone: | 650.526.3590 |
| Grade Levels: | K-5 |
| 2008/2009 Enrollment: | N/A |

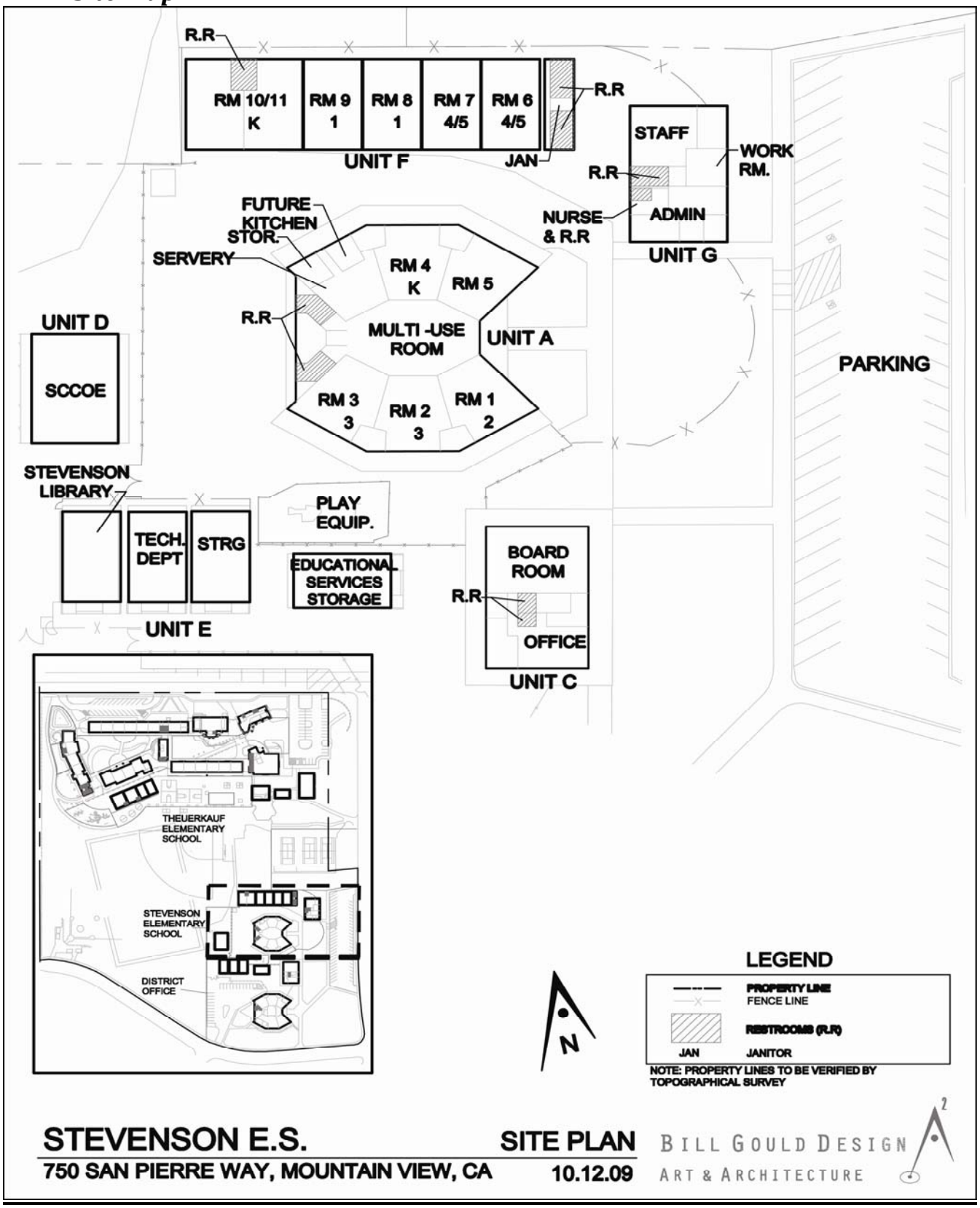
**Site Information:**

| | |
|---|---|
| Gross Acreage: | 16.96 Acres<br>*(Property includes Theuerkauf E.S and District Office)* |
| Net Useable Acreage: | 1.2 Acres<br>(*Assumed area designated*) |

**Building Information:**

| | |
|---|---|
| Original Construction: | 1964 |
| Additions: | 2009 |
| Gross Building Area: | 16,040 sq. ft. |
| Site-built Construction: | 7,400 sq. ft. |
| Modular Construction : | 8,640 sq. ft. |

## *Site Map*


R.R
RM 10/11
K
RM 9
1
RM 8
1
RM 7
4/5
RM 6
4/5
R.R
UNIT F
JAN
STAFF
WORK
RM.
R.R
NURSE
& R.R
ADMIN
UNIT G
FUTURE
KITCHEN
STOR.
SERVERY
RM 4
K
RM 5
R.R
MULTI -USE
ROOM
UNIT A
UNIT D
SCCOE
PARKING
RM 3
3
RM 2
3
RM 1
2
STEVENSON
LIBRARY
PLAY
EQUIP.
TECH.
DEPT
STRG
EDUCATIONAL
SERVICES
STORAGE
BOARD
ROOM
R.R
OFFICE
UNIT E
UNIT C
THEUERKAUF
ELEMENTARY
SCHOOL
STEVENSON
ELEMENTARY
SCHOOL
DISTRICT
OFFICE
N
LEGEND
PROPERTY LINE
FENCE LINE
RESTROOMS (R.R)
JAN
JANITOR
NOTE: PROPERTY LINES TO BE VERIFIED BY
TOPOGRAPHICAL SURVEY
STEVENSON E.S.
SITE PLAN
750 SAN PIERRE WAY, MOUNTAIN VIEW, CA
10.12.09
BILL GOULD DESIGN
ART & ARCHITECTURE
2

## *Introduction*

Stevenson Elementary School is home to the Parent, Child, Teacher (PACT) Program[1], a public K-5 school that offers progressive education and a developmental curriculum through innovative teaching methods and a strong collaboration between teachers and parents. The PACT program was moved to the Stevenson campus in the fall of 2009, and prior to that the campus was leased by YMCA Child Care facility.

The campus was originally constructed in 1964, and was modernized in 2009, at which time, several modular buildings were added. It shares the site with the adjacent District office.

Stevenson Elementary, Theuerkauf Elementary School, and the District Office are all located on the same property; the overall parcel is 16.96 acres. The facilities on this campus include modular administration and classroom buildings as well as a site-built classroom/MUR building.

## *Planning Process*

The assessment process included the review of drawings, site visits and field verification meetings with District administrative staff, and, finally, evaluation of collected data. Following the assessment process, recommendations were developed to improve the conditions and educational suitability of each site. These recommendations were classified based on categories described in the "Basis of Assessment" in the Methodology section of this report. The existing conditions were evaluated utilizing a Good, Fair, Poor, rating system also described in the Methodology section.

School specific data such as existing and recommended number of buildings, space areas, and maximum and allowable occupancies have been specified in Tables "A-1 Classroom Occupancy" and "A-2 Space Utilization."

Information provided is based on District enrollment, District policies and the most recent codes and guidelines in effect at the time of this report. As these factors change, recommendations will be revised and reflected in the SFIP. The Conditions and Needs Analysis Report herein will serve as a working tool guiding the District's future Facilities Improvement Plan.

## *Summary*

While potential deficiencies were identified throughout the campus within this study, in no instance were they of a serious enough nature to warrant immediate action. Individual scopes of work and their projected costs will be developed as part of the upcoming SFIP to be implemented in future modernization projects.

[1] For a complete list and description of special programs offered by MVWSD refer to Appendix 3.

**Table A-1 Classroom Occupancy**

| Use[4] | | Room # | Bldg Type /number of Modulars | Modular Year Built[1] | Working Capacity[2] (# students) | Existing Classroom Area ( s.f) | Recommended Area (s.f.)[3] | Modular Bldg Area (s.f) | Other (s.f.) |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |
| **Kindergarten** | | | | | | | | | |
| | K | 4 | MUR | | 20 | 835 | 1,350 | | |
| | K | 10/11 | Modular | 2009 | 20 | 1,920 | 1,350 | 1920 | |
| **Kindergarten Sub total** | | | **1** | | **40** | **2,755** | | **1,920** | |
| | | | | | | | | | |
| **Grades 1-5** | | | | | | | | | |
| | 1 | 8 | Modular | 2009 | 20 | 960 | 960 | 960 | |
| | 1 | 9 | Modular | 2009 | 20 | 960 | 960 | 960 | |
| | 2 | 1 | MUR | | 20 | 885 | 960 | | |
| | 2 | 5 | MUR | | 20 | 885 | 960 | | |
| | 3 | 2 | MUR | | 20 | 835 | 960 | | |
| | 3 | 3 | MUR | | 20 | 875 | 960 | | |
| | 4/5 | 6 | Modular | 2009 | 30 | 960 | 960 | 960 | |
| | 4/5 | 7 | Modular | 2009 | 30 | 960 | 960 | 960 | |
| **Grades 1-5 Sub Total** | | | **4** | | **180** | **7,320** | | **3,840** | |
| | | | | | | | | | |
| | Administration | | Modular | 2009 | | | | 2400 | |
| | Restroom bldg | | Modular | 2009 | | | | 480 | |
| **Other** | | | **2** | | | | | **2,880** | |
| | | | | | | | | | |
| **TOTALS** | | | **7** | | **220** | **10,075** | | **8,640** | |

Notes:

1- Certification plates as well as available construction documents were checked to verify modular DSA #s and year of installation

2-Working Capacity (Class Size Reduction)=20 students/class for grades K-3 and 30 students/class for grades 4-5 based on schools current utilization.

3- Per Title 5, California Code of Regulations (CCR) for new schools. (used as guideline in this spreadsheet)

4- Information provided is based on 2009/2010 enrollment

**Table A-2 Space Utilization**

| Use | Bldg Component | Current Number of Classes | Number of Modulars | Bldg Component Area (s.f.) | Existing Area (s.f.) | Working Capacity[6] (# students) | Recommended Area (s.f.) | Notes |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| **Modular Classrooms - Unit F** | | | | | | | | |
| K | | 1 | 1 | | 1,920 | 20 | | |
| 1-5 | | 4 | 4 | | 3,840 | 100 | | |
| | | | | | | | | |
| **Administration /Lounge -Unit G** | | | 1 | | 2,400 | | | |
| | | | | | | | | |
| **Pod Building- Unit A** | | | | | 7,400 | | | |
| | MUR- Open space [5] | | | 1,650 | | | 1,561 | Area recommended to accommodate current enrollment population in assemblies. To accommodate 1/3 current enrollment population=1,115 s.f. |
| | ***Rooms 1-5*** | 5 | | 4,315 | | 100 | | |
| | Servery | | | 520 | | | | |
| | Other (Kitchen, restrooms, storage..) | | | 915 | | | | |
| | | | | | | | | |
| **Restroom Bldg** | | | **1** | | 480 | | | |
| | | | | | | | | |
| | | | | | | | | |
| **Total :** | | **10** | **7** | | **16,040** | **220** | | |

| **General:** | **Existing** | **Recommended** | | |
|---|---|---|---|---|
| Property | 16.96 | (includes DO & Theuerkauf) | | |
| Parking [1] | 50 stalls | (shared with DO visitors) | 23 | Stalls |
| Accessible Parking[2] | 2 stalls | | 1 | stalls |

| **Existing Buildings:** | **# of modulars** | **% of Total** | **Bldg Area (s.f.)** |
|---|---|---|---|
| Total Building Area: | | | 16,040 |
| Modulars | 7 | 54% | 8,640 |
| Site-built | | 46% | 7,400 |

| **Play Areas:** | **Grade Level** | **Existing (s.f.)** | **CDE Recommended Area(s.f.) [4]** |
|---|---|---|---|
| Play Equipment Area | K | n/a | 2,500 |
| | 1-3 | 1,335 | 6,400 |
| | 4-5 | | 3,200 |
| Hard-Court | K | n/a | 2,000 |
| | 1-5 | n/a | 13,500 |
| Fields | 1-5 | n/a | 21,600 |

| **Students /Staff [3]** | | |
|---|---|---|
| Current Enrollment | 223 | **"Small"** school per CDE |
| Staff | 18 | |

| **Restrooms :** | **Existing # Toilets, # Urinals (U)** | **Required [7] # Toilets, # Urinals (U)** |
|---|---|---|
| Kinder | 2 | 4 |
| 1-5 | 12, 2U | 8, 2U |
| Staff | 2 | 3, 1U |

| **Classrooms** | |
|---|---|
| Undersize Classes (< 945 s.f.) | 5 |

**Notes:**

1- Number of parking stalls recommended per CDE guidelines based on number of teaching stations.

2- Number of accessible parking spaces required per CBC based on number of parking stalls

3- Current student enrollment and number of staff provided by school (based on 2009/2010 enrollment)

4- Recommended area based on current enrollment per CDE guidelines.

5- Recommended Area is determined per California Building Code (CBC) based on current enrollment. Existing building maximum allowable occupants per CBC: for assembly = 235, Dining = 110

6- Working Capacity (Class Size Reduction)=20 students/class for grades K-3 and 30 students/class for grades 4-5 based on schools current utilization.

7- Required number of fixtures is calculated is based on current enrollment and staff per CPC. Quantities may vary if calculated based on space areas and their Occupant Load Factor (OLF) as indicated in CPC.

## *Assessment Summary*

Existing facilities were evaluated from functional, code compliance, architectural and engineering perspectives. Summary of the findings along with proposed recommendations of each division are provided herein.

# Architectural

### 1. Buildings

### 1.1. Classrooms[2]

There are a total of ten classrooms, six of which are housed in modular buildings. None of the classrooms in Unit A meet the CDE area recommendations.

- **Site-built Classrooms (Unit A)**

The site-built building was originally constructed in 1964 and partially upgraded in 2009. It consists of five classrooms, MUR, future kitchen and servery.

The exterior finishes include doors in poor condition and single pane aluminum storefront windows in fair to poor condition.

Interior finishes include glue up acoustical tile ceiling, which is in fair condition, walls that are in fair to poor condition, and interior doors that are in poor condition. The newly replaced flooring including the carpet is in good condition, while the sheet vinyl that is telegraphing old flooring beneath is in fair condition.

The accessories include casework and operable partitions in poor condition and new whiteboards in good condition.

- **Modular Classrooms (Unit F)**

The modular buildings at this site were built in 2009, and all interior and exterior finishes are new and in good condition. These include double paned aluminum frame windows, T-bar acoustical tile ceiling, tackable wall coverings, carpet and VCT flooring. The accessories, such as the window coverings, white boards, chalk boards and screens, are new and in good condition.

| Recommendation | Category[3] |
|---|---|
| • Replace and/or upgrade interior and exterior finishes in fair or poor condition. | **2** |
| • Replace all accessories in fair to poor condition. | |
| • Expand/replace Unit A classrooms to meet current CDE area guidelines (see Table A-1). | **3** |

[2] Classrooms referred to herein are spaces where grade level and/or special programs are taught, regardless of room size.

[3] Refer to "Basis of Assessment" in the Methodology section of this report for category description.

### 1.2. Multi-Use Room (MUR -Unit A)

The MUR and servery are housed in a site-built building located at the center of the campus. The assembly open space is large enough to accommodate the entire school population during assemblies as well as one-third of the school population during lunch periods.

For exterior and interior finish conditions see "1.1 Classrooms, site-built classrooms".

### 1.3. Administration (Unit G - Modular)

The administration building is a modular building that was constructed in 2009. The building is located near the parking lot and the main entrance of the campus, and comprises of administrative offices (three offices+ one conference room), staff lounge, work room and a nurse's room with a dedicated students restroom.

There are not sufficient restrooms to meet the needs of the current staff population, per CPC requirements. The building is fully compliant with the current accessibility code.

The building is new, due to which all the exterior and interior finishes are in good condition. These include double paned metal frame windows, T-bar acoustical tile ceiling, tackable wall coverings, carpet and VCT flooring.

The accessories, such as the window coverings and white boards, are new and in good condition.

### 1.4. Library (Unit E)

The library is housed in a modular building on the District Office campus. The size of the library meets CDEs minimum requirements for an elementary school.

### 1.5. Restrooms

Student restrooms are located in the site-built building, Unit A, as well as in the new modular restroom building. There are sufficient restrooms to meet current student population requirements, as well as an adequate number of accessible restrooms per CPC and DSA regulations. However, there are aspects of the accessible restrooms in Unit A which do not comply with accessibility code requirements per CBC.

All finishes in the new modular restroom building are in good condition including double pane aluminum frame windows, gypsum board ceilings, FRP on the walls and sheet vinyl flooring. Finishes in Unit A are generally in fair condition except for the toilet partitions which are new and in good condition.

| Recommendation | Category |
|---|---|
| • Upgrade restrooms in Unit A to meet current accessibility code requirements. | **1** |
| • Replace and/or upgrade interior and exterior finishes where in fair or poor condition. | **2** |

## 2. General Site

### 2.1. Site Accessibility

The path-of-travel on this campus generally complies with the current accessibility codes. The interior/exterior drinking fountains are code compliant with the exception of one drinking fountain by Unit A. Additionally the signage at the site-built building Unit A is not code compliant.

The concrete and asphalt paving at walkways is in fair to poor condition, except at the new modular buildings where it is in good condition.

| Recommendation | Category |
|---|---|
| • Replace and repair concrete paving where it is either a safety hazard, barrier to accessibility, or compromises long term sustainability. | **1** |

### 2.2. Parking, Pick-Up/Drop-Off and Bus Loading

There is one parking lot located on the east side of the campus which is shared with the District Office visitors.

The campus has an adequate number of parking spaces per CDE guidelines and the required number of accessible spaces for the current enrollment population.

There are no designated spaces for pick-up/drop-off and bus loading to allow students to enter and exit school grounds safely.

The asphalt paving in the parking lot is new and in good condition.

| Recommendation | Category |
|---|---|
| • Provide separate pick-up/drop-off area and bus loading area. | **1** |

### 2.3. Hard-Court, Play Equipment Areas and Fields

This campus does not contain an athletic field or a dedicated hard-court play area; also, there is one play equipment space for all grade levels.

| Recommendation | Category |
|---|---|
| • Provide a separate kindergarten play area comprised of turf, play equipment and hard-court to allow for better supervision and safer outdoor environment. | **1** |
| • Provide separate play space for grades 1-3 and 4-5, area as recommended in Table A-2. | **3** |

## Structural

The subject buildings were evaluated based on achieving a "life safety protection" performance objective. This performance objective represents minimum standards of seismic resistance generally recognized as providing adequate seismic risk protection to building occupants during large locally occurring earthquakes. The deficiencies identified in this report reflect the ASCE 31-03 Tier I results which were confirmed via rough code based analysis and/or ASCE 31-03 Tier II analysis as applicable.

### 1. Classroom Building (Unit A)

Unit A is a single story wood framed Classroom building with an original construction date of 1964. Based on the ASCE Tier I analysis, Unit A has one deficiency. The exterior walls in the East-West direction do not meet the shear stress check.
**This building receives a subjective rating of 3**[4]

| Recommendation | Category |
|---|---|
| • Provide plywood sheathing with nailing at 3" o.c. to the inside of shear walls in the East-West direction | 1 |

For full text of structural report and applicable ASCE 31-03 Tier I checklist sheets, see Appendix 4.

[4] Refer to "Structural" section of the Methodology for system rating description.

## Mechanical

The following reports and comments are based on observations of the general condition of the mechanical systems and noticeable code issues resulting from an on-site visit, review of the existing record drawings, and feedback from Mountain View Whisman School District staff. Each existing HVAC system should be reviewed, tested, and upgraded to correct the possible problems due to faulty instruments, controls, and other installation issues.

### 1. HVAC Equipment

The site-built building was modernized in 1964 and the mechanical systems (HVAC equipment, ductwork, air distribution and controls) were replaced at that time. The HVAC equipment is forty-five years old. The typical life expectancy of HVAC equipment is fifteen years, if maintained per manufacturer, operation, and maintenance guidelines. The HVAC equipment has standard efficiency but does not meet current Title 24 standards.

The existing HVAC equipment consists of one self contained roof top package heat pump unit serving the Multi-Use Room. The classrooms, offices, and food storage are served by self contained wall mounted heat pump units with a total of six heat pump units. There is one main exhaust fan ventilating the Multi-Use Room, classrooms, offices, and kitchen area. There is no electrical/IDF room on site. There are two restrooms, each served by an exhaust fan. There are three additional restrooms with no mechanical ventilation. The kitchen area is served by two exhaust fans, one for the dishwasher hood and one for the kitchen hood. The existing ductwork and air distribution appears to be in original condition.

The administration, restroom, and classroom modular buildings were installed in 2009. There are two wall mounted heat pumps serving the administration area with three exhaust fans serving three restrooms in the administration modular building. There are six wall mounted heat pumps serving the classrooms and two exhaust fans serving two restrooms in the classroom modular building. There are two exhaust fans serving the restrooms in the restroom modular building.

| Recommendation | Category |
|---|---|
| • Replace all HVAC units past their life expectancy with high efficiency units to meet or exceed the current Title 24 requirements. High efficiency units will use less energy and save on energy costs. | **2** |
| • For the IDF rooms, provide a split system: cooling-only fan coil and roof mounted condensing unit, which will prevent overheating of telecommunication equipment. | **2** |
| • Due to leakage, dust and age, replace existing ductwork and air distribution. | **2** |
| • Replace HVAC equipment that will qualify for Green Building Certification, either LEED or CHPS. | **3** |

**2. Energy Management System (EMS)**

The existing Energy Management System (EMS) is manufactured by Alerton Technology. The existing EMS is Digital Direct Control, Windows-based with dial-up modem. The existing EMS is slow and hard to maintain because it fails frequently. Additionally, the modular buildings are not tied to the EMS system.

| Recommendation | Category |
|---|---|
| • Replace existing Energy Management System (EMS) with new EMS, which is BACNet compatible with internet access through District network, easy to use, and password protected. The new EMS will be faster, easier to maintain, and meet current technology changes. | **2** |
| • Modular buildings should be connected to the Energy Management System (EMS). | **2** |

## Plumbing and Site Utilities

This report and comments to follow are based on observations of the general condition of the plumbing systems and site utilities and noticeable code issues resulting from an on-site visit, review of the existing record drawings, and feedback from Mountain View Whisman School District staff.

### 1. Plumbing System.

The plumbing fixtures in the building were installed in 1964. Hose bibs at exterior walls of the buildings do not have vacuum breaker devices. Plumbing equipment, such as water heaters, are in good condition. Typical life expectancy of plumbing equipment can be between 5-10 years, depending on the type of equipment. Plumbing fixtures such as urinals and water closets are in good condition but do not meet current water conservation standards.

The administration, classroom and restroom modular buildings were installed in 2009. All of these buildings have sinks. New utilities were provided for the modular buildings and connected to the existing utilities on site.

| Recommendation | Category |
|---|---|
| • Provide vacuum breaker devices for all exterior hose bibs to prevent backflow into the potable water system. | 1 |
| • Replace plumbing equipment at the end of life expectancy. | 2 |
| • Replace existing plumbing fixtures, i.e., faucets, urinals, water closets, with high efficiency plumbing fixtures that meet green building certification like LEED or CHPS to reduce water consumption (i.e., install waterless urinals and low-consumption flush toilets). | 3 |

### 2. Gas

There is no gas system on site.

### 3. Domestic Water

The building and domestic water system was installed in 1964. The site is supplied by one 2” water meter located north of the campus by San Pierre Way. The domestic water piping has a typical life expectancy of 25-30 years. The domestic 6” and 4” water main asbestos cement (AC) pipe runs underground and connect to steel pipe branch that runs under the building and connected to the plumbing fixtures.

The pipe materials utilized on these smaller underground lines vary from solvent-weld polyvinyl chloride pipe (PVC) to ductile iron pipe (DIP) with the likelihood of limited amounts of copper and/or ferrous metal pipe used at or in the individual building services.

| Recommendation | Category |
|---|---|
| • The site domestic water system is to be replaced together with the sanitary sewer system. | 2 |

**4. Sanitary Sewer**

Typically, sanitary sewer systems have a life expectancy of 30-40 years depending on the piping material installed. In the 1960s and 1970s, sanitary main trunk lines were typically 6-inch vitrified clay pipe (VCP). Clay pipe has long been used for sanitary sewer mains and is still considered a competent product for this purpose. Depending on location, internal velocities, and adequate joints, VCP can have life expectancy up to 40 years.

| Recommendation | Category |
|---|---|
| • For the sanitary sewer system, either perform a video survey to assess the type of piping material and the percentage to be replaced or replace all piping. Apply high velocity water jetters to the system prior to a video survey. | 2 |

**5. Storm Drainage**

Typically, storm drainage systems have a life expectancy of 30-40 years depending on the piping material installed. Typical storm drainage piping materials include reinforced concrete pipe (RCP), corrugated metal pipe (CMP), polyvinyl chloride pipe (PVC), and high-density polyethylene pipe (HDPE).

| Recommendation | Category |
|---|---|
| • For the storm drainage system, either perform a video survey to assess the type of piping material and the percentage to be replaced or replace all piping. Apply high velocity water jetters to the system prior to a video survey. | 2 |

## Electrical

This report and comments to follow are based on observations of the general condition of the electrical systems and site utilities and noticeable code issues resulting from an on-site visit, review of the existing record drawings and feedback from Mountain View Whisman School District staff.

### 1. Power

An 800A, 208/120V, 3 phase, 4 wire switchboard located outside of the restroom modular building provides power to all the modular buildings on campus. The switchboard was installed in 2009 and is in good condition. The existing 400amp panel at the site-built classroom building is fed from the main switchboard at the district office with a separate meter. The 800A switchboard has capacity to accommodate the site-built classroom building. All power and low voltage system distribution conduits were installed underground. All areas at the modular buildings have adequate power outlets for the current use. There were only two (2) 20 amp circuits shared by three classrooms at the site built classroom building. All distribution and branch circuit panels at the modular buildings are in good condition with spare capacity and breaker spaces for future need. The panel at the site-built classroom building (Unit A) is of original build and has limited spare capacity and breaker space for future connection.

| Recommendation | Category |
|---|---|
| • Replace existing panel at the site-built classroom building (Unit A) with new panel of additional breaker capacity and connect to the campus main switchboard. | 2 |
| • Provide additional power outlets at the site-built classroom building (Unit A) with additional circuitry for computer usage. | 2 |

### 2. Lighting

All light fixtures are of fluorescent source with electronic ballast and T8 lamps and provide adequate lighting level for the task performed in each area. All fixtures meet the requirement of current Title 24 efficiency standards. Interior fixtures are controlled by wall mounted switches and not on automatic control devices. Exterior light fixtures at modular buildings are controlled by the wall switches. The exterior light fixtures at the site built classroom building are controlled by photocell and time clock. The parking lot does not have adequate lighting for pedestrian safety.

| Recommendation | Category |
|---|---|
| • Provide additional fixtures in the parking lot to improve campus safety. | 1 |
| • Connect all exterior lighting to EMS system for energy saving and ease of campus control. | 2 |
| • Provide automatic lighting control at all interior spaces to comply with Title 24 standard. | 2 |

### 3. Fire Alarm

The modular buildings are connected to an automatic addressable fire alarm system with smoke detectors and annunciation devices complying with current code. The new Fike Cybercat 254 panel is located at the front office. The site-built classroom building (Unit A) is connected to the existing fire alarm system at the District office with minimum pull stations and annunciation devices that does not comply with current code. Both systems are currently functioning and the site-built classroom (Unit A) will be merged with the addressable system following DSA approval.

| Recommendation | Category |
|---|---|
| • Provide an automatic fire alarm system at the site-built classroom building (Unit A) and connect to the fire alarm panel at the administration office. | 1 |

### 4. Paging/Clock

A new Bogen PA/Clock system located in the MDF room at the administration building provides for campus announcements, master clock, and bell schedule. The campus has good announcement coverage, and the system is in good condition.

### 5. Security

The existing security system at the modular buildings is provided with audio motion sensors and door contacts via Sonitrol Alarm monitoring. The site built classroom building has an independent Bay alarm system installed by the pervious tenant.

| Recommendation | Category |
|---|---|
| • Provide new Sonitrol security system per District standard with door contacts, audio motion sensor at areas with exterior doors, windows and central monitoring capability at Unit A. | 2 |

## Technology

These recommendations are based on the information obtained during the observation of the general condition of the schools and feedback from staff at Mountain View Whisman School District.

### 1. Structure Cabling

This school was renovated during the summer of 2009. The cooper cabling is CAT5E at the modulars and CAT 6 at the new building. There are twelve strands of fiber from the District office to the MDF in the administration building. In addition, a 50 pair of category 3 copper connects the MDF to the District Office MPOE (minimum point of entry). From the MDF to the IDF, there are twelve strands of fiber, a fifty pair CAT 3, and RG-11. Overall, the structure cabling is in excellent condition.

### 2. IDF/MDF Environment

The MDF is located in the administration building (Unit G). One IDF is located Unit A and the other is located in the new modular building wing. Both locations are clean.

### 3. Video Safety System

The District does not have a video safety system in place for this school.

| Recommendation | Category |
|---|---|
| • Implement a network based video safety solution that will monitor the exterior and problem areas of the campus. | **3** |

### 4. Data Network

There are two HP Procurve 2610-48 with Power over Ethernet. One switch is in the Administration building and the other is in the new modular building wing. The old octagonal building has an HP ProCurve 2610-24 with Power over Ethernet. Each switch has a 1GB connection back to the Foundry at the District Office. With the shift toward web-based applications, there is a need for increased Internet bandwidth. To provide wireless connectivity, some IDFs are equipped with a buffalo wireless access point (AP).

| Recommendation | Category |
|---|---|
| • Replace the current switching solution with the District's new switching standard (HP Procurve or equal) to support gigabit connection to the desktop. | **3** |
| • Replace the current wireless solution with an enterprise solution that allows the school to efficiently deploy, secure, and centrally manage the wireless LAN and meet current industry standard such as 802.11n. | **3** |

**5. Video Distribution System**

Most classrooms are equipped with coaxial cable for cable services. It seems that most classrooms are not using the service.

| Recommendation | Category |
|---|---|
| • Upgrade the current (coaxial cable) video distribution system to a network based system utilizing the newly installed cabling standard. With a network based solution, the classroom can have access to educational video streaming services from the Internet to enhance the learning experience of students. | 3 |

**6. Phone System**

The Phone system, sipXecs IP PBX, was installed during the summer of 2009. Phones are Polycom 321/331 and 450s.

**7. Smart Classroom**

Currently there is minimal integration of technology into the classroom. Some of the classrooms have components (projector, TV, VCR/DVD player) of a smart classroom and are currently using them.

| Recommendation | Category |
|---|---|
| • Develop a plan to implement the latest instructional technology in the classrooms to meet educational goals. | 3 |

# *Theuerkauf Elementary School*

**General Information**

| | |
|---|---|
| Address: | 1625 San Luis Avenue<br>Mountain View, CA 94043 |
| Telephone: | 650.903.6925 |
| Grade Levels: | K-5 |
| 2008/2009 Enrollment: | 478 Students |

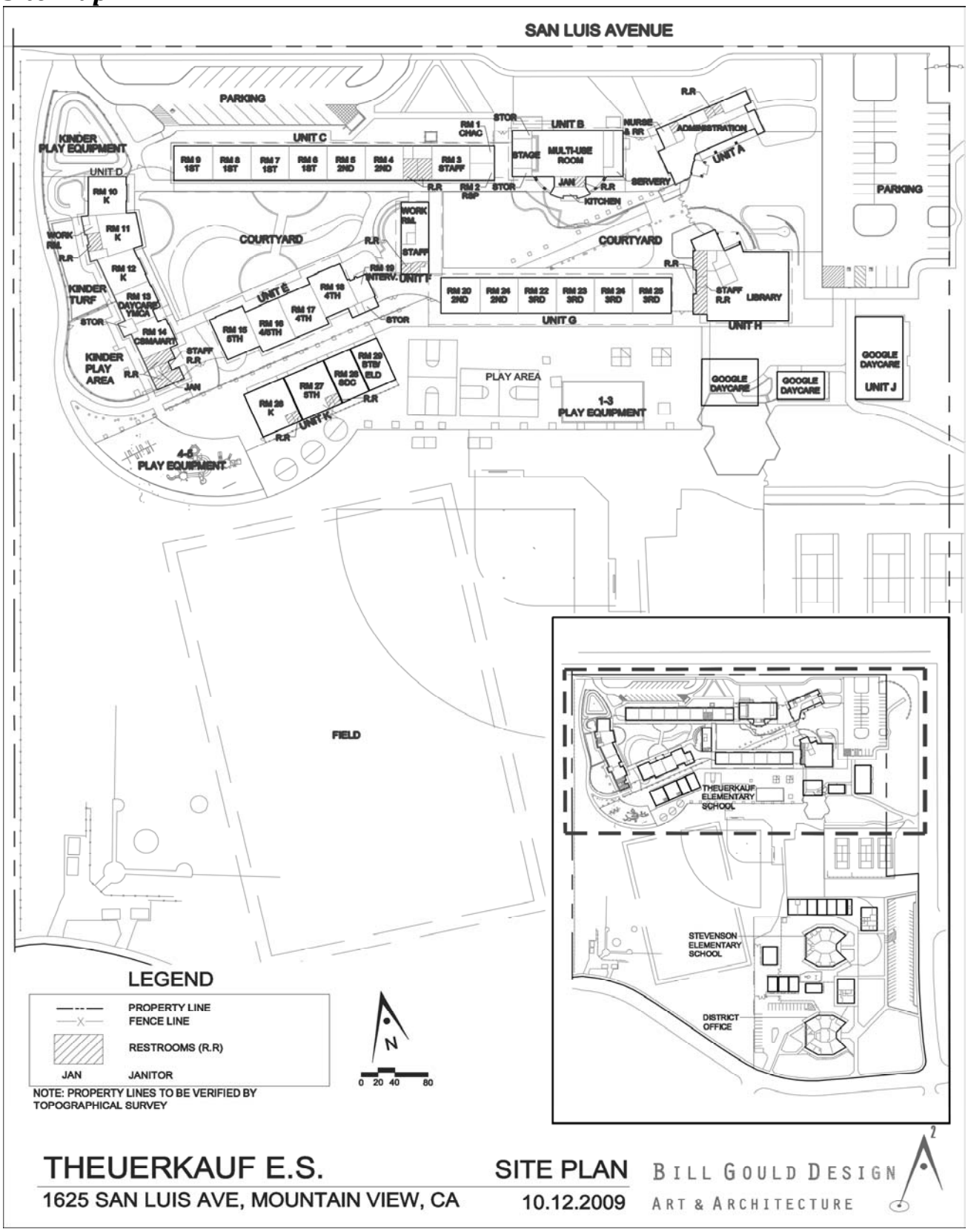
**Site Information:**

| | |
|---|---|
| Gross Acreage: | 16.96 Acres<br>*(Property includes Stevenson E.S and District Office)* |
| Net Useable Acreage: | 12.86 Acres<br>(*Assumed area designated)* |

**Building Information:**

| | |
|---|---|
| Original Construction: | 1952 |
| Additions and Modernizations: | 1956 – 2008 |
| Gross Building Area: | 49,444 sq. ft. |
| Site-built Construction: | 39,364 sq. ft. |
| Modular Construction : | 10,080 sq. ft. |

## *Site Map*


SAN LUIS AVENUE
PARKING
KINDER PLAY EQUIPMENT
UNIT C
UNIT D
UNIT B
MULTI-USE ROOM
STAGE
ADMINISTRATION
UNIT A
KITCHEN
SERVERY
COURTYARD
UNIT E
UNIT F
UNIT G
UNIT H
LIBRARY
KINDER TURF
KINDER PLAY AREA
PLAY AREA
1-3 PLAY EQUIPMENT
4-6 PLAY EQUIPMENT
GOOGLE DAYCARE
UNIT J
UNIT K
FIELD
THEUERKAUF ELEMENTARY SCHOOL
STEVENSON ELEMENTARY SCHOOL
DISTRICT OFFICE
LEGEND
PROPERTY LINE
FENCE LINE
RESTROOMS (R.R)
JAN JANITOR
NOTE: PROPERTY LINES TO BE VERIFIED BY TOPOGRAPHICAL SURVEY
N
0 20 40 80
THEUERKAUF E.S.
1625 SAN LUIS AVE, MOUNTAIN VIEW, CA
SITE PLAN
10.12.2009
BILL GOULD DESIGN
ART & ARCHITECTURE

## *Introduction*

Theuerkauf Elementary operates K-5, serving the northern area of Mountain View. The school was originally constructed in 1952. Since the original construction, a number of modernization and addition projects have taken place starting in 1956 and continuing through 2008. One of the major projects included renovation of the site and existing buildings as well as the addition of Units D and E in 1998.

Theuerkauf Elementary School, Stevenson Elementary, and the District Office are all located on the same property; the overall parcel is 16.96 acres. The facilities on this site are mainly site built along with a few modular buildings.

The buildings are spread out forming two courtyards and consist of five classroom wings, an Administration building, Multi-Use Room (MUR), Staff Lounge/Work room, a library, and three daycare buildings (leased to Google, not included in this report).

## *Planning Process*

The assessment process included review of drawings, site visits and field verification, meetings with District administrative staff and school committees, and, finally, evaluation of collected data. Following the assessment process, recommendations were developed to improve the conditions and educational suitability of each site. These recommendations were classified based on categories described in "Basis of Assessment" in the Methodology section of this report. The existing conditions were evaluated following a 'Good, Fair, Poor' rating system as described in the Methodology section of this report.

School specific data such as the existing and recommended number of buildings, areas, and maximum and allowable occupancies have been specified in Tables "A-1 Classroom Occupancy" and "A2 Space Utilization."

The information provided is based on District enrollment, District policies and the most recent codes and guidelines in effect at the time of this report. As these factors change, recommendations will be revised and reflected in the master plan. The Conditions and Needs Analysis Report herein will serve as a working tool guiding the District's future Facilities Improvement Plan.

## *Summary*

While potential deficiencies were identified throughout the campus within this study, in no instance were they of a serious enough nature to warrant immediate action. Individual scopes of work and their projected costs will be developed as part of the upcoming SFIP to be implemented in future modernization projects.

**Table A-1 Classroom Occupancy**

| Use | | Room # | Bldg Type /Number of Modulars | Modular Year Built[1] | Working Capacity [2] (# students) | Existing Classroom Area ( s.f) | Recommended Area (s.f.)[3] | Modular Bldg Area (s.f) | Other (s.f.) |
|---|---|---|---|---|---|---|---|---|---|
| **Kindergarten** | K | 10 | Site-Built | | 20 | 1,060 | 1,350 | | |
| | K | 11 | Site-Built | | 20 | 1,495 | 1,350 | | |
| | K | 12 | Site-Built | | 20 | 1,060 | 1,350 | | |
| | K | 26 | Modular | 2008 | 20 | 1,440 | 1,350 | 1,440 | |
| **Sub Total** | | | **1** | | **80** | **5,055** | | **1,440** | |
| Grades 1-3 | 1 | 6 | Site-Built | | 20 | 945 | 960 | | |
| | 1 | 7 | Site-Built | | 20 | 945 | 960 | | |
| | 1 | 8 | Site-Built | | 20 | 945 | 960 | | |
| | 1 | 9 | Site-Built | | 20 | 950 | 960 | | |
| | 2 | 4 | Site-Built | | 20 | 945 | 960 | | |
| | 2 | 5 | Site-Built | | 20 | 945 | 960 | | |
| | 2 | 20 | Site-Built | | 20 | 985 | 960 | | |
| | 2 | 21 | Site-Built | | 20 | 975 | 960 | | |
| | 3 | 22 | Site-Built | | 20 | 975 | 960 | | |
| | 3 | 23 | Site-Built | | 20 | 975 | 960 | | |
| | 3 | 24 | Site-Built | | 20 | 975 | 960 | | |
| | 3 | 25 | Site-Built | | 20 | 985 | 960 | | |
| **Sub Total** | | | **0** | | **240** | **11,545** | | **0** | |
| **Grades 4-5** | 4 | 17 | Site-Built | | 30 | 1,140 | 960 | | |
| | 4 | 18 | Site-Built | | 30 | 1,140 | 960 | | |
| (orig. K) | 4/5 | 16 | Site-Built | | 30 | 1,140 | 960 | | |
| | 5 | 15 | Site-Built | | 30 | 1,140 | 960 | | |
| | 5 | 27 | Modular | 2008 | 30 | 1,440 | 960 | 1,440 | |
| **Sub Total** | | | **1** | | **150** | **6,000** | | **1,440** | |
| **Special Programs / Pull Out** | | | | | | | | | |
| | CHAC | 1 | Site-Built | | | 305 | | | |
| | RSP | 2 | Site-Built | | | 305 | | | |
| | Art | 14 | Site-Built | | | 885 | | | |
| | Music/YMCA after school | 13 | Site-Built | | | 885 | | | |
| | Intervention | 19 | Site-Built | | | 335 | | | |
| | SDC | 28 | Modular | 2008 | 12 | 960 | | 960 | |
| | BTB/ELD | 29 | Modular | 2008 | | 960 | | 960 | |
| | Google Daycare | | Modular | 2000? | | 1,440 | | 1,440 | |
| | Google Daycare | | Modular | 2000 | | 960 | | 960 | |
| | Google Daycare | Unit J | Modular | 1998 | | 2,880 | | 2,880 | |
| **Sub Total** | | | **5** | | **12** | **9,915** | | **7,200** | |
| **Other:** | Staff Lounge | 3 | Site-Built | | | | | | 945 |
| | Restrooms, storages, elec- not included in other bldgs areas | | | | | | | | 2,051 |
| **Sub Total** | | | **0** | | | **0** | | **0** | |
| **TOTALS** | | | **7** | | **482** | **32,515** | | **10,080** | **2,996** |

Notes:

1- Certification plates as well as available construction documents were checked to verify modular DSA #s and year of installation.

2- Working Capacity (Class Size Reduction)=20 students/class for grades K-3 and 30 students/class for grades 4-5 based on schools current utilization.

3- Per Title 5, California Code of Regulations (CCR) for new schools. (used as guidelines in this spreadsheet)

**Table A-2 Space Utilization**

| Use | Bldg Component | Current Number of Classes/teaching stations | Number of Modulars | Bldg Component Area (s.f.) | Existing Area (s.f.) | Current Enrollment | Working Capacity[8] (# students) | Recommended Area (s.f.) | Notes |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |
| K | | 4 | 1 | | 5,055 | 85 | 80 | | |
| 1-3 | | 12 | 0 | | 11,545 | 238 | 240 | | |
| 4-5 | | 5 | 1 | | 6,000 | 148 | 150 | | |
| | | | | | | | | | |
| K-5 Sub-Total | | 21 | 2 | | 22,600 | 471 | 470 | | |
| | | | | | | | | | |
| Special Programs [5] | | | | | | | | | |
| CHAC | | 1 | | | 305 | | | | |
| RSP | | 1 | | | 305 | | | 240 | |
| CSMA/Art | | 1 | | | 885 | | | | |
| Music /YMCA after school | | 1 | | | 885 | | | | |
| Intervention | | 1 | | | 335 | | | | |
| SDC | | 1 | 1 | | 960 | 7 | 12 | 960 | |
| BTB/ELD | | 1 | 1 | | 960 | | | | |
| Google-Daycare | | 1 | 1 | | 2,880 | | | | |
| Google-Daycare | | 1 | 1 | | 960 | | | | |
| Google-Daycare | | 1 | 1 | | 1,440 | | | | |
| | | | | | | | | | |
| Special Program Sub-Total | | 10 | 5 | | 9,915 | 7 | 12 | | |
| | | | | | | | | | |
| Administration | | | | | 3,150 | | | | |
| Staff lounge/work room | | | | | 1,442 | | | | |
| Staff lounge (classroom ) | | 1 | | | 945 | | | | |
| Library [6] | | | | | 5,130 | | | 960 | |
| Multi use | | | | | 4,211 | | | | |
| | Assembly [7] | | | 2,330 | | | | 3,346 | area recommended is to accommodate entire school population in assemblies. To accommodate 1/3 student population during lunch : 15*160 =2400 s.f. |
| | Servery | | | 600 | | | | | |
| | Other (restroom, storage, office, stage,kitchen) | | | 1,281 | | | | | |
| Restrooms,storages--not included in bldg areas | | | | | 2,051 | | | | |
| | | | | | | | | | |
| Sub-Total | | | 0 | | 16,929 | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| Total | | 31 | 7 | | 49,444 | 478 | 482 | | |

| General | Existing | | Recommended | |
|---|---|---|---|---|
| Property | 16.96 | includes DO & Stevenson | | |
| Parking [1] | 58 stalls | | 70 | stalls |
| Accessible Parking[2] | 3 stalls | | 3 | stalls |

| Existing Buildings | # of Modulars | % of Total | Bldg Area (s.f.) |
|---|---|---|---|
| Total Building Area: | | | 49,444 |
| Modulars | 7 | 20% | 10,080 |
| Site-Built | | 80% | 39,364 |

| Play Areas: | Grade Level | Existing (s.f.) | CDE Recommended area(s.f.) [4] |
|---|---|---|---|
| Play Equipment Area | K | 4,170 | 2,500 |
| | 1-3 | 2,470 | 9,600 |
| | 4-5 | 5,580 | 6,400 |
| Hard-Court | K | 4,260 | 4,000 |
| | 1-5 | 26,440 | 34,000 |
| Fields/Turf | K | 2,690 | 5,500 |
| | 1-5 | 251,750 | 86,400 |

| Students /Staff [3] | | |
|---|---|---|
| Current Enrollment | 478 | **Medium** size school per CDE |
| Staff | 45 | |

| Restrooms : | Existing # Toilets, # Urinals (U) | Required [9] # Toilets, # Urinals (U) |
|---|---|---|
| Kinder | 6 | 6 |
| 1-5 | 31, 7U | 17, 3U |
| Staff | 6 | 5, 1U |

| Classrooms | |
|---|---|
| Undersize classes (< 945 s.f.) | 5 |

**Notes:**

1- Number of parking stalls recommended per CDE guidelines based on number of teaching stations.

2- Number of accessible parking spaces required per CBC based on number of parking spaces.

3- Current student enrollment and number of staff provided by school.

4- Play areas recommended based on current enrollment per CDE guidelines

5- Recommended area for special program classrooms are based on Title 5, California Code of Regulations (CCR) for new schools- used as guideline only

6- Recommended area is based on Title 5, CCR, for new middle schools, used as guideline only. Minimum 960 s.f. for elementary schools

7- Recommended area is determined per California Building Code (CBC) based on current enrollment. Existing building maximum allowable occupants per CBC: for assembly = 155 and dining = 332

8- Working Capacity (Class Size Reduction)=20 students/class for grades K-3 and 30 students/class for grades 4-5 based on schools current utilization.

9- Required number of fixtures is calculated based on current enrollment and staff per CPC. Quantities may vary if calculated based on space areas and their Occupant Load Factor (OLF) as indicated in CPC.

## *Assessment Summary*

Existing facilities were evaluated from functional, code compliance, architectural and engineering perspectives. Summary of the findings along with proposed recommendations of each division are provided herein.

## Architectural

### 1. Buildings

#### 1.1. Classrooms[1]

There are twenty-one K-5 classrooms, seven special programs and three daycare classrooms, seven of which are housed in modular buildings. Three daycare classrooms have been leased to Google.

Most grade level classrooms meet the CDE area recommendations of 960 s.f. A few of the classrooms housing grades 1 and 2 as well as two kindergarten classrooms are smaller than recommended. Programs currently housed in undersize[2] classrooms include intervention, CHAC, RSP, CSMA/Art and Music/YMCA after school enrichment programs. The two later classrooms are separated by operable partition walls and may be joined to form a larger classroom if necessary.

- **Site-Built Classrooms (Units C, D, E and G)**
  The modernization and additions to the site-built classroom buildings were conducted in 1998. Classroom Units D and E were added as part of this project. Due to recent upgrades, exterior finishes such as roofing, doors, windows and stucco are mainly in good condition, with the exception of the single-glazed, wood, steel sash windows in Units C and G, which are in fair condition.

  Interior finishes in these classrooms include glue up acoustical tile ceilings, tackable wall covering, gypsum wall board, and casework, all of which are generally in good condition. Flooring in the classrooms consists of carpet, which is in good condition and VCT which varies from poor to fair in various classrooms. Most classrooms have teaching walls[3] which are in good condition. The accessories such as vertical blinds are all in good condition.

- **Modular Classrooms (Unit K)**
  Modular buildings at this site were built between 1998 and 2008; Unit J and two other daycare modulars leased to Google have not been assessed as part of this report.

  All interior and exterior finishes, as well as accessories, provided in modular buildings (Unit K) are generally in good condition.

[1] Classrooms referred to herein are spaces where grade level and/or special programs are taught, regardless of room size.
[2] Undersize classrooms refer to classrooms smaller than 945 s.f. regardless of their area requirement, refer to Tables A-1 and A-2 for specific area requirements.
[3] A teaching wall is a piece of casework that has sliding white boards with storage behind them.

| Recommendation | Category[4] |
|---|---|
| • Expand kindergarten classrooms 10 and11 to meet current CDE area requirements. | 1 |
| • Replace and/or upgrade interior and exterior finishes in fair or poor condition. | 2 |
| • Provide flexible classrooms to accommodate space for after school programs. Number of flexible classrooms determined based on District's Educational Specifications. | 3 |

### 1.2. Multi-Use Room (MUR – Unit B)

The Multi-Use Room (MUR) was originally built in 1952 and modernized in 1998. It consists of a kitchen, servery, and permanent stage, as well as an assembly area used for lunch periods, assemblies and PE. The assembly area is not large enough to accommodate the entire school population during assemblies. However, it is sufficient to accommodate one-third of the school population during lunch periods.

The roofing system on this building is standing seam metal. Due to recent upgrades, it is generally in good condition. Exterior finishes such as doors, stucco, and single-glazed steel windows are all in good condition.

Interior finishes include doors, acoustical tile ceiling, FRP, and gypsum wall panels, which are all in good condition. Flooring in this building consists of VCT in the assembly area and epoxy resin in the servery, all of which is in fair condition.

The other specialty items, such as the curtains and kitchen appliances, are in good condition. The stage, folding tables and food service equipment are all in fair condition.

| Recommendation | Category |
|---|---|
| • Replace and/or upgrade interior and exterior finishes in fair or poor condition. | 2 |
| • Replace specialty items in fair or poor condition. | 2 |
| • Expand MUR to accommodate entire school population during assemblies. | 3 |

[4] Refer to "Basis of Assessment"in the Methodology section for category description.

### 1.3. Administration, Staff Lounge/Work Room (Units A and F)

The administration offices are located at the main entrance, while the staff lounge and work rooms are in a separate building located centrally within the campus and dividing the two courtyards. However, due to the location of the restrooms within the existing lounge area, the staff currently uses one of the classrooms as their lounge.

The restrooms within these buildings meet the current accessibility provisions and contain an adequate amount of fixtures for the current population. Interior and exterior finishes throughout these buildings are generally in good condition, with the exception of the VCT flooring in the administration offices which is in fair condition.

| Recommendation | Category |
|---|---|
| • Replace the VCT flooring. | 2 |
| • Provide separation between the lounge and the restrooms. | 3 |

### 1.4. Library (Unit H)

The library was originally built in 1985 and modernized in 1998. The size of the library meets CDE area guidelines per current enrollment. Interior and exterior finishes in this building are generally in good condition, with the exception of the VCT and carpet flooring which are in fair condition.

| Recommendation | Category |
|---|---|
| • Replace the VCT and carpet flooring. | 2 |

### 1.5. Restrooms

The restrooms are located in classroom buildings Unit D and C, the library and the MUR. Kindergarten and daycare classrooms have dedicated restrooms within their building. There are sufficient restrooms to meet current population requirements, as well as an adequate number of accessible restrooms per CPC and DSA regulations. Interior and exterior finishes of the restrooms are all generally in good condition.

## 2. General Site

### 2.1. Site Accessibility

The path-of-travel, interior and exterior drinking fountains, and signage throughout the campus are code compliant.

| Recommendation | Category |
|---|---|
| • Perform a detailed Accessibility Survey to identify and address any barrier to accessibility (drinking fountains, signage, restrooms and path-of-travel). | 1 |

### 2.2. Parking, Pick-Up/Drop-Off and Bus Loading

The campus does not have an adequate number of parking spaces per CDE guidelines; however, it has the required number of accessible spaces for the current population.

Designated spaces have been provided for pick-up/drop-off and bus loading to allow students to enter and exit school grounds safely.

| Recommendation | Category |
|---|---|
| • Provide more parking stalls as indicated in Table A-2. | **3** |

### 2.3. Hard-Court, Play Equipment Spaces and Fields

There are various play areas designated to different grade levels. The kindergarten play area, which consists of play equipment, turf and hard-court, is separated from the rest of the school. In order to meet CDE's design guidelines for current enrollment, the kinder turf, as well as, the hard-court and play equipment areas for grades 1-5 should be expanded.

Surfaces include asphalt and concrete paving which are all generally in good condition.

| Recommendation | Category |
|---|---|
| • Expand play areas as recommended in Table A-2. | **3** |

### 2.4. Covered Walkways

The roofing system on the covered walkways is built-up roofing, with limited or no roof-mounted equipment or conduits; and is in good condition.

## Structural

The subject buildings were evaluated based on achieving a "life safety protection" performance objective. This performance objective represents minimum standards of seismic resistance generally recognized as providing adequate seismic risk protection to building occupants during large locally occurring earthquakes. The deficiencies identified in this report reflect the ASCE 31-03 Tier I results which were confirmed via rough code based analysis and/or ASCE 31-03 Tier II analysis as applicable.

### 1. Administration Building (Unit A)

Unit A is a single story wood framed administration building, built in 1956 with an addition and remodel in 1998. It does not have any deficiencies, and no retrofits are required at this time.

**This building receives a subjective rating of 1[5]**

### 2. Multi-Use Building (Unit B)

Unit B is a single story wood framed Multi-Use building, originally constructed in 1952, with an addition in 1998. It does not have any deficiencies. No retrofits are required at this time.

**This building receives a subjective rating of 1**

### 3. Classroom Building (Unit C)

Unit C is a single story wood framed and concrete shear-wall classroom building constructed in 1952. The building has no deficiencies, and no retrofits are required at this time.

**This building receives a subjective rating of 1**

### 4. Classroom Building (Unit D)

Unit D is a single story wood framed classroom building constructed in 1998. The building has no deficiencies, and no retrofits are required at this time.

**This building receives a subjective rating of 1**

### 5. Classroom Building (Unit E)

Unit E is a single story wood framed classroom building. It was built in 1998, and it has no deficiencies. No retrofit is required.

**This building receives a subjective rating of 1**

### 6. Staff Lounge/Workroom Building (Unit F)

Unit F is a single story wood framed building constructed in 1956 and remodeled in 1998. Based on visual inspection, existing openings were in-filled, and the existing shear walls have new door and window openings. Our analysis of the building's new configuration indicated that there was an inadequate amount of structural shear wall on the two longitudinal sides of the building. This analysis was derived from the assumption that the undocumented infill is non-structural. It is possible that further investigation of this building could reveal adequate structural infill and therefore change the evaluation rating for this building.

**This building receives a subjective rating of 3**

[5] Refer to "Structural" division of the Methodology section for system rating description.

| Recommendation | Category |
|---|---|
| • In lieu of destructive observation to the exterior walls, we recommend adding plywood to the inside face of the longitudinal walls to create an adequate lateral force resisting system in this direction. | 1 |

**7. Classroom Building (Unit G)**

Unit G is a single story wood and steel framed classroom building constructed in 1956. The building's lateral force resisting system consists of plywood sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls and cantilevered columns. The shear walls have one-sided plywood sheathing. The seismic loads acting in transverse direction are resisted by exterior and interior plywood shear walls. All shear walls in the transverse direction were found to be adequate. The seismic loads acting in the longitudinal direction are resisted by cantilevered steel columns. The lack of ductility in the footings caused this system to be inadequate.

**This building receives a subjective rating of 3**

| Recommendation | Category |
|---|---|
| • Infill approximately 50 feet of windows on both longitudinal exterior walls with structural plywood to create an adequate lateral force resisting system in this direction. | 1 |

**8. Library Building (Unit H)**

Unit H is a single story wood framed library building constructed in 1985 with addition and remodel constructed in 1998. The analysis was performed based on design of similar buildings, a visual inspection, and whatever drawings were available. Based on the ASCE Tier I analysis, Unit H does not have any deficiencies. No retrofits are required at this time.

**This building receives a subjective rating of 1**

For full text of structural report and applicable ASCE 31-03 Tier I checklist sheets, see Appendix 4.

## Mechanical

The following reports and comments are based on observations of the general condition of the mechanical systems and noticeable code issues resulting from an on-site visit, review of the existing record drawings, and feedback from Mountain View Whisman School District staff. Each existing HVAC system should be reviewed, tested, and upgraded to correct the possible problems due to faulty instruments, controls, and other installation issues.

### 1. HVAC Equipment

The site was modernized in 1998 and the mechanical systems (HVAC equipment, ductwork, air distribution, and controls) were replaced at that time. The HVAC equipment is eleven years old. The typical life expectancy of HVAC equipment is fifteen years, if maintained per manufacturer, operation, and maintenance guidelines. The HVAC equipment has standard efficiency but does not meet current Title 24 standards. There is one floor mounted gas/ electric package air-conditioning unit serving the Multi-Use Building. The classrooms are served by self contained Airedale package heat pump units with a total of twenty seven Airedale package units. The administration offices are served by split systems: heat pumps and condensing units with a total of two split systems. The library conference room is served by a self contained heat pump. The library electrical/IDF room is served by a cooling-only split system (fan coil and condensing unit.). For the remaining seven electrical/IDF rooms per each building, there is no air conditioning and no ventilation. The kitchen area is served by two exhaust fans, one for the dishwasher and the other one for the general exhaust. The existing ductwork and air distribution appear to be in good condition.

| Recommendation | Category |
|---|---|
| • At the end of life expectancy replace all HVAC units with High Efficiency Units to meet or exceed the current Title 24 requirements. High Efficiency Units will use less energy and save on energy costs. | **2** |
| • For the IDF rooms, provide a split system: cooling-only fan coil and roof mounted condensing unit, which will prevent overheating of telecommunication equipment. | **2** |
| • Replace HVAC equipment that will qualify for Green Building Certification, either LEED or CHPS. | **3** |

**2. Energy Management System (EMS)**

The existing Energy Management System (EMS) is manufactured by Alerton Technology. The existing EMS is Digital Direct Control, Windows Operating System based with dial-up modem. The existing EMS is slow and hard to maintain because it fails frequently. Additionally, modular buildings are not tied to the EMS system.

| Recommendation | Category |
|---|---|
| • Replace existing Energy Management System (EMS) with new EMS, which is BACNet compatible with internet access through District network, easy to use, and password protected. The new EMS will be faster, easier to maintain, and meet current technology changes. | **2** |
| • Modular buildings should be connected to the Energy Management System (EMS). | **2** |

## Plumbing and Site Utilities

This report and comments to follow are based on observations of the general condition of the plumbing systems and site utilities and noticeable code issues resulting from an on-site visit, review of the existing record drawings, and feedback from Mountain View Whisman School District staff.

### 1. Plumbing System

The plumbing fixtures in the building were replaced in the 1998 modernization project. The typical life expectancy of plumbing equipment can be between 5-10 years, depending on type of equipment. Plumbing equipment, such as the water heater, is in good condition. Plumbing fixtures are in good condition, but do not meet current water conservation standards.

| Recommendation | Category |
|---|---|
| • Plumbing equipment should be replaced at the end of life expectancy. | 2 |
| • Replace existing plumbing fixtures, i.e., faucets, urinals, water closets, with high efficiency plumbing fixtures that meet green building certification like LEED or CHPS to reduce water consumption (i.e., install waterless urinals and low-consumption flush toilets). | 3 |

### 2. Gas

Gas piping system was replaced in the 1998 modernization project. The site is supplied with one gas meter, without an earthquake-actuated gas shutoff valve, located at the northeast side of the MUR building. The gas meter capacity is 400 CFH with 0.25 psi gas pressure supply to the MUR only.

Gas piping has a typical life expectancy of 25-30 years. Gas piping is steel pipe for underground and inside the MUR building.

| Recommendation | Category |
|---|---|
| • Provide an earthquake-actuated gas shut-off valve for the gas system to automatically shut off the gas in the event of a seismic disturbance. | 1 |

### 3. Domestic Water

The building domestic Water system was replaced in the 1998 modernization project. The site domestic water system was not replaced. The site has one 2" water meter located north of the campus by San Luis Avenue. The domestic water piping has a typical life expectancy of 25-30 years. The domestic water piping inside the buildings are made of copper.

Typical underground domestic mains constructed in the last 50 years were constructed of 4 inch diameter asbestos cement (AC) pipe. The use of AC pipe in potable water supply systems was common during the late 1950s up until the 1970s. Although no longer manufactured, a substantial amount of AC pipe remains in service in North America and Europe. The pipe materials utilized on the smaller lines vary from solvent-weld polyvinyl chloride pipe (PVC) to ductile iron pipe (DIP) with the likelihood of limited amounts of copper and/or ferrous metal pipe used at or in the individual building services.

| Recommendation | Category |
|---|---|
| • The site domestic water system is to be replaced due to leakage and loss of water pressure. | **2** |

### 4. Sanitary Sewer

Typically, sanitary sewer systems have a life expectancy of 30-40 years depending on the piping material installed. In the 1960s and 1970s, sanitary main trunk lines were typically 6-inch vitrified clay pipe (VCP). Clay pipe has long been used for sanitary sewer mains and is still considered a competent product for this purpose. Depending on location, internal velocities, and adequate joints, VCP can have life expectancy up to 40 years.

| Recommendation | Category |
|---|---|
| • For the sanitary sewer system, either perform a video survey to assess the type of piping material and the percentage to be replaced or replace all piping. Apply high velocity water jetters to the system prior to a video survey. | **2** |

### 5. Storm Drainage

Typically, storm drainage systems have a life expectancy of 30-40 years depending on the piping material installed. Typical storm drainage piping materials include reinforced concrete pipe (RCP), corrugated metal pipe (CMP), polyvinyl chloride pipe (PVC), and high-density polyethylene pipe (HDPE).

| Recommendation | Category |
|---|---|
| • For the storm drainage system, either perform a video survey to assess the type of piping material and the percentage to be replaced or replace all piping. Apply high velocity water jetters to the system prior to a video survey. | **2** |

## Electrical

This report and comments to follow are based on observations of the general condition of the electrical systems and site utilities and noticeable code issues resulting from an on-site visit, review of the existing record drawings and feedback from Mountain View Whisman School District staff.

### 1. Power

A 3000A, 208/120V, 3 phase, 4 wire switchboard located in Building C electrical room provides power to the campus. The switchboard was installed in 1998 and is in good condition. Per PG&E records, the current usage on the system is about 1000 amps with a spare capacity of 1400 amps for future usage. All the power distribution conduits were installed underground. Most of the areas had adequate power outlets for the current use. There were six (6) 20 amp circuits connected to each classroom. These were not used to the maximum capacity. All distribution and branch circuit panels are in good condition with spare capacity and breaker spaces for future need. Some of the electrical rooms were used for storage and violated the code requirement of 36" clearance in front of the panel board.

| Recommendation | Category |
|---|---|
| • Maintain code required clearance in front of all electrical panel boards and equipment. | 1 |

### 2. Lighting

The majority of the light fixtures are of fluorescent source with electronic ballast and T8 lamps. The lighting level is adequate for the task performed in each area and meets the requirement of current Title 24 efficiency standards. Interior fixtures are controlled by ceiling or wall mounted occupancy sensors with override switches. Classrooms with multiple entries have only one set of control switches at one location, and this creates inconvenience as well as possible safety concerns for the users. Exterior light fixtures are controlled by photocell and time clock via low voltage lighting control panel. The parking lot has adequate lighting for pedestrian safety.

| Recommendation | Category |
|---|---|
| • Provide three-way switching at areas with multiple entries. | 2 |
| • Connect exterior lighting to EMS system for energy saving and ease of campus control. | 2 |
| • Replace existing lighting fixtures with energy efficient lamps and ballasts of current technology to save operating cost. | 3 |

### 3. Fire Alarm

The campus is provided with a manual/automatic addressable fire alarm system with pull stations, smoke detectors, and notification devices. The existing Firelite MS9200 panel located in the Building C electrical room is in working condition, but it does not have capacity for campus automatic system conversion. The visual and audio notification device coverage on the campus does not comply with current code.

| Recommendation | Category |
|---|---|
| Replace existing fire alarm system with new network based addressable fire alarm system with adequate notification devices throughout the campus to meet the current code. | 1 |

### 4. Paging/Clock

Existing Bogen PA/Clock system located in the electrical room of Building C provides for campus announcements, master clock, and bell schedule. The campus has good announcement coverage and the system is in good condition.

### 5. Security

Bay Alarm provides a working, adequate security monitoring of the campus through motion sensors and door contacts. Bay Alarm provides third-party monitoring and is hired by the District.

| Recommendation | Category |
|---|---|
| Replace existing system with Sonitrol audio motion sensors and door contacts to be monitored by Sonitrol as District standard. | 3 |

## Technology

These recommendations are based on the information obtained during the observation of the general condition of the schools and feedback from staff at Mountain View Whisman School District.

### 1. Structure Cabling

The copper cabling in this school is CAT5 and CAT5E, and was installed over ten years ago. Some of the CAT5E seems to have been recently installed. Station cabling is installed in plastic wiremold on the walls, and station jacks are a mix of blocks and different style faceplates. Cable labeling is a mix of styles, and some cables are not labeled. There are twelve strands of 62.5/125 multi-mode fiber from each IDF to the MDF. There are RG-11s from the MDF to each IDF and RG-6 to each end station in the building for broadband distribution. Overall, the structure cabling is in fair condition.

| Recommendation | Category |
|---|---|
| • Replace cabling to bring it up to current industry standards in order to support the different applications (EMS, Video Safety, VoIP, web applications etc.). Recommendation is to upgrade the horizontal cabling to Category 6. | **3** |
| • Demolish and remove all abandoned cables. | **3** |
| • Upgrade the fiber backbone to the latest industry standards. | **3** |

### 2. IDF/MDF Environment

The MDF is located in the electrical room of the administration building. IDFs are typically located in the classroom, boiler/mechanical/electrical, or storage room, and are dusty and dirty. The IDF in classroom G is located inside an exterior wall mounted box, exposing the box to direct heat. Most locations are not easily accessible, and some locations do not get filtered air. This will cause equipment fans to fail and device shut-down due to heat or the complete failure of a network switch. The failure of a network will cause that entire building to go off-line for an extended period until the device is replaced Some IDFs are not equipped with a UPS, grounding, and proper horizontal wire manager, and the wire managers are not used effectively, creating a twisted and unmanageable wire system.

| Recommendation | Category |
|---|---|
| • Implement a solution that will safeguard the equipment located in the IDFs. | **2** |
| • Provide a clean, air-conditioned, and secure environment for network infrastructure, or relocate the IDF. | **2** |
| • Provide appropriate electrical, grounding, and UPS solutions in each IDF. | **2** |

### 3. Video Safety System

The District does not have a video safety system in place for this school.

| Recommendation | Category |
|---|---|
| • Implement a network based video safety solution that will monitor the exterior and problem areas of the campus. | 3 |

### 4. Data Network

The school is using old and out of warranty 3Com switches. The vents for the fans on the switches are clogged with dust and debris, therefore reducing the life of each switch. With the shift toward web-based applications, there is a need for increased Internet bandwidth. To provide wireless connectivity, some IDFs are equipped with a buffalo wireless access point (AP).

| Recommendation | Category |
|---|---|
| • Replace the current switching solution with the District's new switching standard (HP Procurve or equal) to support Gig connection to the desktop. | 3 |
| • Replace the current wireless solution with an enterprise solution that allows the school to efficiently deploy, secure, and centrally manage the wireless LAN and meets current industry standard such as 802.11n. | 3 |

### 5. Video Distribution System

Most classrooms are equipped with coaxial cable for cable services. It seems that most classrooms are not using the service. Classrooms are typically equipped with a wall mounted TV with a VCR.

| Recommendation | Category |
|---|---|
| • Upgrade the current (coaxial cable) video distribution system to a network based system utilizing the newly installed cabling standard. With a network based solution, the classroom can have access to educational video streaming services from the Internet to enhance the learning experience of students. | 3 |

### 6. Phone System

The Phone system, sipXecs IP PBX, was installed during the summer of 2009. Phones are Polycom 321/331 and 450s.

**7. Smart Classroom**

Currently there is minimal integration of technology into the classroom. Some of the classrooms have components (projector, TV, VCR/DVD player) of a smart classroom and are currently using them.

| Recommendation | Category |
|---|---|
| • Develop a plan to implement the latest instructional technology in the classrooms to meet educational goals. | **3** |

# *Whisman School*

(German International School of Silicon Valley
and Yew Chung International School)

**General Information**

| | |
|---|---|
| Address: | 310 Easy Street<br>Mountain View, CA 94043 |
| Telephone: | |
| Grade Levels: | K-5 |
| 2008/2009 Enrollment: | N/A |

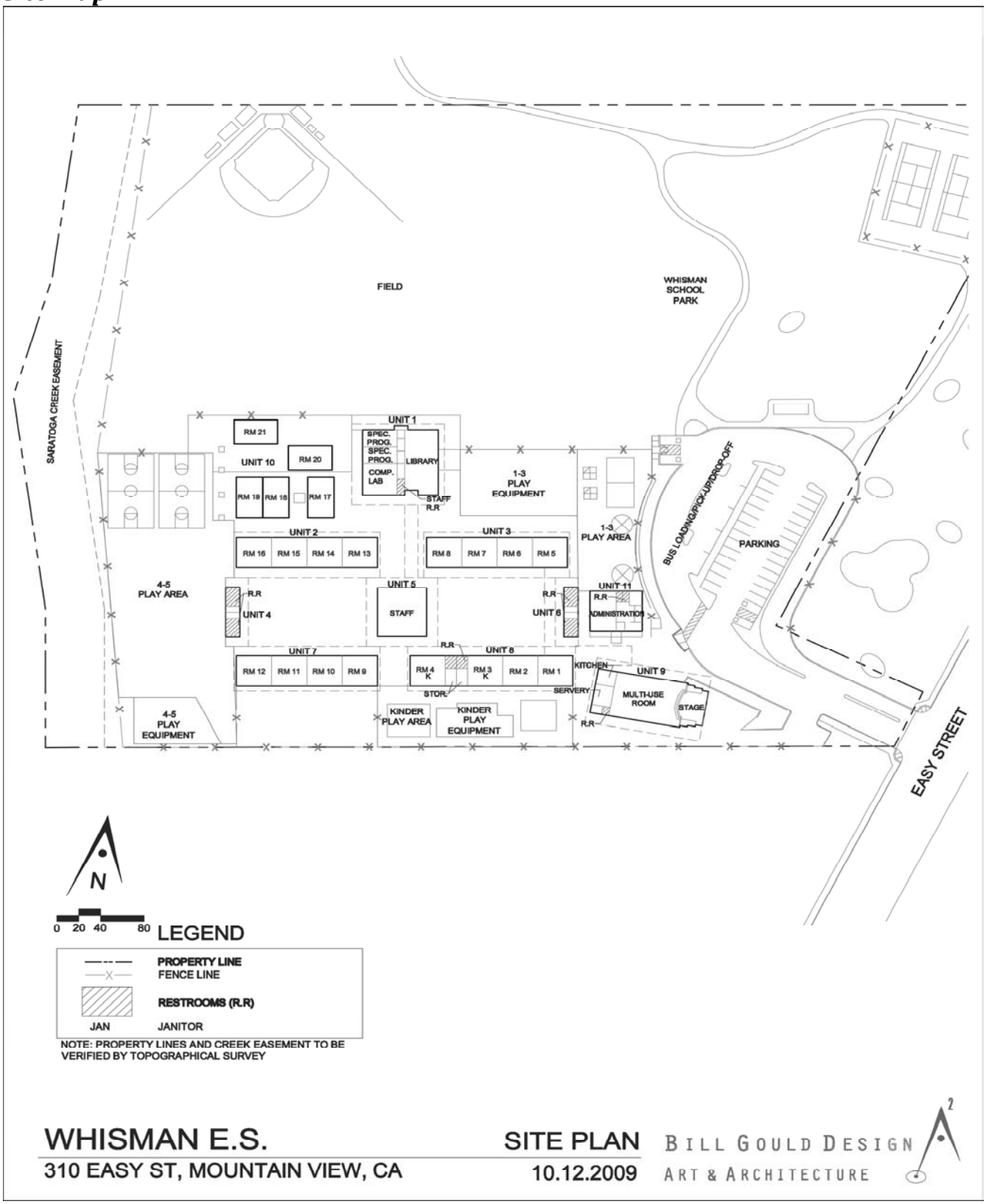
**Site Information:**

| | |
|---|---|
| Gross Acreage: | 11.62 acres<br>*(Estimate – accurate information from Assessor's office is not available)* |
| Net Useable Acreage: | 10.85 acres<br>*(Estimate based on SCVWD Saratoga Creek Easement – Survey for verification)* |

**Building Information:**

| | |
|---|---|
| Original Construction: | 1960 |
| Additions: | 1961-2007 |
| Gross Building Area: | 35,253 sq. ft. |
| Site-built Construction: | 28,533 sq. ft. |
| Modular Construction: | 6,720 sq. ft. |

## *Site Map*


FIELD
WHISMAN SCHOOL PARK
SARATOGA CREEK EASEMENT
UNIT 1
SPEC. PROG.
SPEC. PROG.
COMP. LAB
LIBRARY
STAFF R.R
RM 21
UNIT 10
RM 20
RM 19
RM 18
RM 17
1-3 PLAY EQUIPMENT
1-3 PLAY AREA
BUS LOADING/PICK-UP/DROP-OFF
PARKING
UNIT 2
RM 16
RM 15
RM 14
RM 13
UNIT 3
RM 8
RM 7
RM 6
RM 5
4-5 PLAY AREA
R.R
UNIT 4
UNIT 5
STAFF
R.R
UNIT 6
UNIT 11
R.R
ADMINISTRATION
UNIT 7
RM 12
RM 11
RM 10
RM 9
R.R
UNIT 8
RM 4 K
RM 3 K
RM 2
RM 1
STOR.
KITCHEN
SERVERY
UNIT 9
MULTI-USE ROOM
STAGE
R.R
4-5 PLAY EQUIPMENT
KINDER PLAY AREA
KINDER PLAY EQUIPMENT
EASY STREET
N
0 20 40 80
LEGEND
PROPERTY LINE
FENCE LINE
RESTROOMS (R.R)
JAN JANITOR
NOTE: PROPERTY LINES AND CREEK EASEMENT TO BE VERIFIED BY TOPOGRAPHICAL SURVEY
WHISMAN E.S.
310 EASY ST, MOUNTAIN VIEW, CA
SITE PLAN
10.12.2009
BILL GOULD DESIGN
ART & ARCHITECTURE

## *Introduction*

Whisman School has been leased to German International School of Silicon Valley (GISSV) since 2000. The GISSV currently holds a 20 year lease expiring in 2024 with an option to discontinue their lease agreement in 2014. Part of the site has also been subleased to Yew Chung International School (YCIS).

The campus was originally constructed in 1960. Since the original construction, a number of modernization and addition projects have taken place starting in 1961 and continuing through 2007. Improvement and addition projects were implemented in 2006 and 2007 and were conducted by GISSV.

The site area is estimated to be approximately 11.62 acres. However, due to an easement required by Santa Clara Valley Water District for the Saratoga Creek, which runs on the west side of the property, the net usable space is about 10.85 acres. The easement area of the creek is currently fenced off from the rest of the campus and is not being used in any capacity. The buildings on this site are a combination of modular and site-built buildings which include classrooms, a library, Multi Use Room (MUR), staff building, and a modular administration building.

## *Planning Process*

The assessment process included review of drawings, site visits and field verification, meetings with District administrative staff, and finally, evaluation of collected data. Following the assessment process, recommendations were developed to improve the conditions and educational suitability of each site. These recommendations were classified based on categories described in “Basis of Assessment” in the Methodology section of this report. The existing conditions were evaluated utilizing a ‘Good, Fair, Poor’ rating system also described in the Methodology section.

School specific data such as existing and recommended number of buildings, space areas, and maximum and allowable occupancies have been specified in Table “A-1 Classroom Occupancy” and Table “A-2 Space Utilization”

The information provided is based on District enrollment, District policies and the most recent codes and guidelines in effect at the time of this report. As these factors change, recommendations will be revised and reflected in the SFIP. The Conditions and Needs Analysis Report herein will serve as a working tool guiding the District’s future Facilities Improvement Plan.

## *Summary*

While potential deficiencies were identified throughout the campus within this study, in no instance were they of a serious enough nature to warrant immediate action. Individual scopes of work and their projected costs will be developed as part of the upcoming SFIP; to be implemented in future modernization projects.

**Table A-1 Classroom Occupancy**

| Use | | Room # | Bldg Type /number of Modulars | Modular Year Built[1] | Working Capacity[2] (# students) | Existing Classroom Area ( s.f)[5] | Recommended Area (s.f.)[4] | Modular Bldg Area (s.f) | Other (s.f.) |
|---|---|---|---|---|---|---|---|---|---|
| **Potential Use, as Whisman Elementary School- Currently GISSV and YCIS[6]** | | | | | | | | | |
| **Kindergarten** | | | | | | | | | |
| | K | 3 | Site built | | 20 | 1,270 | 1,350 | | |
| | K | 4 | Site built | | 20 | 1,270 | 1,350 | | |
| **Kindergarten Sub total** | | | | | **40** | **2,540** | | | |
| | | | | | | | | | |
| **Grades 1-3** | | | | | | | | | |
| | 1 | 1 | site built | | 20 | 970 | 960 | | |
| | 1 | 2 | site built | | 20 | 970 | 960 | | |
| | 1 | 5 | site built | | 20 | 970 | 960 | | |
| | 1 | 6 | site built | | 20 | 970 | 960 | | |
| | 1 | 7 | site built | | 20 | 970 | 960 | | |
| | 2 | 8 | site built | | 20 | 970 | 960 | | |
| | 2 | 9 | site built | | 20 | 970 | 960 | | |
| | 2 | 10 | site built | | 20 | 970 | 960 | | |
| | 2 | 11 | site built | | 20 | 970 | 960 | | |
| | 2 | 12 | site built | | 20 | 970 | 960 | | |
| | 3 | 13 | site built | | 20 | 970 | 960 | | |
| | 3 | 14 | site built | | 20 | 970 | 960 | | |
| | 3 | 15 | site built | | 20 | 970 | 960 | | |
| | 3 | 16 | site built | | 20 | 970 | 960 | | |
| **Grades 1-3 sub-total** | | | | | **280** | **13,580** | | | |
| | | | | | | | | | |
| **Grades 4-5** | | | | | | | | | |
| | 4 | 17 | Modular | 1994 | 30 | 960 | 960 | 960 | |
| | 4 | 18 | Modular | 1994 | 30 | 960 | 960 | 960 | |
| | 4 | 19 | Modular | 1994 | 30 | 960 | 960 | 960 | |
| | 5 | 20 | Modular | 1998 | 30 | 960 | 960 | 960 | |
| | 5 | 21 | Modular | 1998 | 30 | 960 | 960 | 960 | |
| **Grades 4-5 Sub-total** | | | **5** | | **150** | **4,800** | | **4,800** | |
| | | | | | | | | | |
| **Special Programs-Pull Out** | | | | | | | | | |
| | Special Program | | in Library | | | | | | 545 |
| | Special Program | | in Library | | | | | | 500 |
| | | | | | | | | | |
| **Special Programs-Pull Out Subtotal** | | | | | | | | **0** | **1,045** |
| | | | | | | | | | |
| | Administration | | Modular | 2007 | | | | 1920 | |
| | storages, elec- not included in other bldgs area | | | | | | | | 0 |
| **Other** | | | **1** | | | **0** | | **1,920** | **1,045** |
| | | | | | | | | | |
| **TOTAL** | | | **6** | | **470** | **20,920** | | **6,720** | |

Notes:

1- Certification plates as well as available construction documents were checked to verify modular DSA #s and year of installation.

2- Working Capacity (Class Size Reduction) is based on 20 students/class for grades K-3 and 30 students/classroom for grades 4-5

3- Not used

4- Per Title 5, California Code of Regulations (CCR) for new schools. (used as guidelines in this spreadsheet)

5- Existing area is calculated based on space layouts prior to Google modernization.

6- Number of classrooms designated to each grade level is estimated based on other MVWSD elementary schools

**Table A-2 Space Utilization**

| Use | Bldg Component | Current Number of Classes | Number of Modulars | Bldg Component Area (s.f.) | Existing Area (s.f.) | Current Enroll. | Working Capacity[8] (# students) | Recommended Area (s.f.) | Notes |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |
| **Potential Whisman - Current GISSV and YCIS [10]** | | | | | | | | | |
| **K** | | 2 | 0 | | 2,540 | n/a | 40 | | |
| **1-3** | | 14 | 0 | | 13,580 | n/a | 280 | | |
| **4-5** | | 5 | 5 | | 4,800 | n/a | 150 | | |
| **Sub-Total** | | **21** | **5** | | **20,920** | | **470** | | |
| | | | | | | | | | |
| **Administration** | | | 1 | | 1,920 | | | | |
| **Staff Lounge** | | | | | 2,154 | | | | |
| **Library** | | | | | 4,500 | | | | |
| | Library[5] | | | 2,440 | | | | 960 | Currently utilized as YCIS offices. |
| | Computer Lab | **1** | | 1,015 | | | | | |
| | Special Programs | **2** | | 1,045 | | | | | |
| **Multi use[7]** | | | | | 4,493 | | | | |
| | Assembly | | | 2,565 | | | | 3,290 | Recommended area is to accommodate potential working capacity in assemblies. Area required to accommodate 1/3 potential working capacity=2,350 s.f. |
| | Food Prep/Servery | | | 720 | | | | | |
| | Other (stage, restroom, storage) | | | 1,208 | | | | | |
| **Student Restrooms** | | | | | 1,266 | | | | |
| | | | | | | | | | |
| **Restrooms,storages--not included in bldg areas** | | | | | 0 | | | | |
| | | | | | | | | | |
| **Sub-Total** | | **3** | **1** | | **14,333** | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| **Total** | | **24** | **6** | **0** | **35,253** | **0** | **470** | | |

| General | Existing | Recommended | |
|---|---|---|---|
| Property | 11.62 ac (10.85 ac net) | | |
| Parking [1] | 37 stalls | 54 | stalls |
| Accessible Parking[2] | 4 stalls | 3 | stalls |

| Existing Buildings | # of modulars | % of Total | Bldg Area (s.f.) |
|---|---|---|---|
| Total Building Area: | | | 35,253 |
| Modulars | 6 | 19% | 6,720 |
| Site-built | | 81% | 28,533 |

| Play Areas: | Grade Level | Existing | CDE Recommended area(s.f.) [4] | |
|---|---|---|---|---|
| Play Equipment Area | K | 2,060 | 2,000 | |
| | 1-3 | 7,000 | 9,600 | 280 |
| | 4-5 | 3,165 | 6,400 | 150 |
| Hard-court | K | 6,500 | 2,000 | |
| | 1-3 | 8,300 | 18,000 | |
| | 4-5 | 27,420 | 16,000 | |
| Fields/Turf | K | -- | 3,000 | |
| | 1-5 | 166,200 | 86,400 | |

| Students /Staff | | |
|---|---|---|
| working capacity | 470 | **"Medium" size school** |
| Staff [3] | 50 | |

| Restrooms : | Existing # Toilets, # Urinals | Required [9] # Toilets, # Urinals |
|---|---|---|
| Kinder | 4 | 2 |
| 1-5 | 16, 8U | 17, 3U |
| Staff | | 3, 1U |

| Classrooms | |
|---|---|
| Undersize classes (< 945 s.f.) | 0 |

**Notes:**

1- Number of parking stalls recommended per CDE guidelines based on number of teaching stations.

2- Number of accessible parking spaces required per CBC based on number of parking stalls.

3- Number of staff estimated for calculation purposes only.

4- Recommended play area based on potential working capacity per CDE guidelines.

5- Recommended area is based on Title 5, CCR, for new middle schools, used as guideline only. Minimum 960 s.f. for elementary schools

7- Recommended Area is determined per California Building Code (CBC) based on potential working Capacity. (E) building max allowable occupants per CBC: assembly=366 and in Food Server= 171

8- Working Capacity (Class Size Reduction) is based on 20 students/class for grades K-3 and 30 students/classroom for grades 4-5

9- Required number of toilets is calculated based on space areas and their Occupant Load Factor (OLF) as indicated in CPC.

10- Number of classrooms designated to each grade level is estimated based on other MVWSD elementary schools, SDC,RSP and Speech to be determined.

## *Assessment Summary*

Existing facilities were evaluated from functional, code compliance, architectural and engineering perspectives. Summary of the findings along with proposed recommendations of each division are provided herein.

Recommendations provided are based on eventual reoccupation of the campus by Mountain View Whisman School District, as an Elementary School.

# Architectural

### 1. Buildings

### 1.1. Classrooms [1]

There are twenty-one potential K-5 and three special program[2] classrooms (including computer lab), five of which are housed in modular buildings. Most classrooms meet the CDE area recommendations, with the exception of the two kindergarten classrooms. There are two undersize[3] classrooms which may potentially be used for special programs such as speech and RSP.

- **Site-built Classrooms (Units 2, 3, 7 and 8)**
  The site-built classroom buildings were originally constructed between 1960 and 1962. Casework and HVAC systems were upgraded in 1994. The restrooms serving the kindergarten classrooms do not meet current accessibility requirements.

  The built-up roofing system on these buildings is in poor condition with rusting gutters, though the painted hardboard soffits are in fair condition. Solar panels have been installed on Unit 7's roof (by GISSV in 2007), which provide 34% of the required energy to the site.

  The exterior finishes include stucco which is in good condition, and exposed CMU with ceramic tile wainscot which is in fair condition. The doors and single-glazed aluminum hopper windows are in fair to poor condition.

  The interior finishes include glue up acoustical tile ceiling, exposed CMU and tackable walls, gypsum wall boards, carpet and interior doors, all of which are in fair condition, and mismatched VCT flooring which is in poor condition. The toilet partitions and ceramic tile flooring in kindergarten restrooms are in poor condition. The casework is finished with older plastic laminate and is in fair to poor condition. There is typically some exposed ductwork throughout the classrooms.

  Accessories include older chalk boards and curtains in fair condition in most places.

[1] Classrooms referred to herein are spaces where grade level and/or special programs are taught, regardless of room size.
[2] For a complete list and description of special programs offered by MVWSD refer to Appendix 3
[3] Undersize classrooms refer to classrooms smaller than 945 s f. regardless of their area requirement; refer to Tables A-1 and A-2 for specific area requirements.

- **Modular Classrooms (Unit 10)**
  The modular classroom buildings at this site were built between 1994 and 1998 and were not available to be surveyed at the time of the site visit. Our ability to survey the site is limited due to the fact that it is occupied by the GISSV.

| Recommendation | Category[4] |
|---|---|
| • Upgrade restrooms to meet current accessibility code requirements. | **1** |
| • Replace and/or upgrade interior and exterior finishes in fair or poor condition. | **2** |
| • Replace accessories in fair or poor condition. | **2** |
| • Remove and replace modular buildings installed prior to 1995. | **2** |

### 1.2. Multi-Use Room (MUR-Unit 9)

The Multi-Use Room (MUR) was originally built in 1961 and modernized in 1998. It consists of an assembly area, kitchen, servery, and restrooms. The assembly area includes a permanent stage and is meant to be used during assemblies and lunch periods.

The assembly space is not large enough to accommodate the entire school population of a potential elementary school during assemblies, although is it sufficient to accommodate one-third of the school population during lunch periods.

The exterior stucco is in good condition. The ceramic tile wainscot, doors, and aluminum hopper windows are in fair condition.

The ceilings in this building are tectum panels and are in poor condition. The wall finishes include wall coverings that are in fair condition, as well as, acoustic panels which are in poor condition. The FRP in the kitchen is in fair condition, and the exposed CMU as well as the ceramic tile in the restrooms are in good condition. The VCT flooring in the assembly area is in fair condition, the ceramic tile in the restroom is in good condition, and the epoxy flooring in the kitchen is in poor condition. The interior doors are in fair to good condition.

The specialty items in the assembly area include a permanent stage with wood flooring which is in fair to poor condition, accessible lift and stairs with handrails, both of which are in good condition. The built-in tables and benches are in poor condition, and there is also a non-acoustical operable partition that is in fair condition. Food service items include stainless steel casework, a warming oven, and refrigerators, all of which are in fair condition.

[4] Refer to "Basis of Assessment" in the Methodology section of this report for category description.

| Recommendation | Category |
|---|---|
| • Replace and/or upgrade interior and exterior finishes in fair or poor condition. | 2 |
| • Replace specialty items in fair or poor condition. | 2 |
| • Provide acoustical operable walls in MUR to allow concurrence of multiple functions. | 3 |

### 1.3. Administration and Staff (Units 5 and 11)

The original administration building (Unit 5) was constructed in 1960, and it originally housed both the administration and staff functions. Due to its location on the campus, it was hard to find since it was not visible from the parking lot. In 2007, a modular administration building (Unit 11) was added to the campus by GISSV at the entrance. The new administration building has a reception area, a copy room, lounge, restrooms, an office and a conference room. Half of the building is being used as a library for GISSV since the original library is being used as administration offices for YCIS.

Main non-conformities in Unit 5 include high thresholds, non-compliant restrooms and inaccessible casework. Unit 11 is new and compliant with current code.

- **Staff (Unit 5)**
  The exterior finishes on this building include painted hardboard soffits which are in fair condition, doors that are in poor condition, and aluminum hopper single-glazed windows that are in fair condition.

  The interior finishes include older glue up acoustical tile ceiling which is in fair condition, interior doors which are in poor condition, gypsum board and exposed CMU walls, both in fair condition, and carpet which is in fair condition. The casework is of older plastic laminate is in fair condition and is not accessible.

- **Administration (Unit 11)**
  The modular administration building was built in 2007. Due to the age of this building all interior and exterior finishes are generally in good condition.

| Recommendation | Category |
|---|---|
| • Upgrade restrooms to meet current accessibility code requirements. | 1 |
| • Upgrade casework and sinks to meet current accessibility code requirements. | 1 |
| • Replace and/or upgrade interior and exterior finishes in fair or poor condition. | 2 |

### 1.4. Library (Unit 1)

The library was originally built in 1988 and is currently being used as administrative offices for YCIS. The size of the library meets CDE's minimum area guidelines. A computer lab, two special education classrooms, and staff restroom are also housed in this building. The staff restroom is not accessible.

The exterior finishes on this building include stucco and split face concrete block, both of which are in good condition. The stucco soffits are in fair condition, the doors are in good condition, and the aluminum single-glazed smoked glass windows are in good condition, as well.

The interior finishes include glue up and suspended acoustical tile ceilings, gypsum wall boards and ceramic tile flooring, all of which are in good condition, the carpet flooring, and doors are in fair condition, and wall covering and casework are in poor condition.

| Recommendations | Category |
|---|---|
| • Upgrade restrooms to meet current accessibility code requirements. | 1 |
| • Replace and/or upgrade interior and exterior finishes in fair or poor condition. | 2 |

### 1.5. Restrooms (Units 4 and 6)

Student restrooms are located in two independent site-built structures, one on each side of the classroom wings. They were originally built in 1960 and upgraded in 1994, although they do not comply with current accessibility code requirements. There are sufficient restrooms to meet potential elementary school student population requirements. However, there are no accessible restrooms per CPC and DSA regulations.

The exterior finishes include built-up roofing, exposed CMU walls, which are in fair condition, and wood trim which is in poor condition. The doors are in poor condition. The windows include storefront steel windows which are in fair condition and aluminum hopper windows that are in poor condition.

The interior finishes consist of older glue up acoustical tile ceilings and ceramic tile walls which are both in poor condition. The exposed CMU walls are in fair condition, and the 1"x1" ceramic mosaic flooring is in poor condition. The toilet partitions are in poor condition.

| Recommendation | Category |
|---|---|
| • Upgrade restrooms to meet current accessibility code requirements. | 1 |
| • Replace and/or upgrade interior and exterior finishes in fair or poor condition. | 2 |

## 2. General Site

### 2.1. Site Accessibility

Path-of-travel issues such as high thresholds were noticed throughout the campus except at Unit 1 and modernized Unit 9 (MUR). Additionally, the interior/exterior drinking fountains are not code compliant, and there is no signage on the campus. The concrete paving at walkways is in poor condition in certain areas, with the exception of the newly installed Unit 11 where the concrete is in good condition.

| Recommendation | Category |
|---|---|
| • Perform a detailed Accessibility Survey to identify and address all barriers to accessibility (drinking fountains, signage, restrooms and path-of- travel). | 1 |
| • Replace and repair asphalt /concrete paving where it is either a safety hazard, accessibility issue, or compromises long term sustainability. | 1 |

### 2.2. Parking, Pick-Up/Drop-Off and Bus Loading

The campus does not have an adequate number of parking spaces per CDE guidelines based on potential occupancy of an elementary school. However, it does contain the required number of accessible spaces.

The pick-up/drop-off is combined with the bus loading area. CDE recommends these areas be separated to allow students to enter and exit school grounds safely.

| Recommendation | Category |
|---|---|
| • Provide separate pick-up/drop-off and bus loading areas. | 1 |
| • Provide additional parking stalls to meet CDE guidelines. | 3 |

### 2.3. Hard-Court, Play Equipment Areas and Fields

There is an athletic field, three separate hard-court and play equipment spaces for various grade levels. The Kindergarten play areas are fenced off. In order to meet CDE's design guidelines for potential occupancy of an elementary school, 4-5 grade play equipment and 1-3 grade hard court play areas should be expanded.

Play surfaces include asphalt paving and tanbark, which are both in poor condition.

| Recommendation | Category |
|---|---|
| • Replace and repair asphalt paving where it is either a safety hazard, accessibility barrier, or compromises long term sustainability | **1** |
| • Remove and replace tan bark in play equipment areas with rubber surfacing for safety and accessibility purposes. | **1** |
| • Expand play areas as indicated in Table A-1. | **3** |

### 2.4. Covered Walkways:

There are only two covered walkways on the campus. The first is at the entry to the site (between Unit 9 and Unit 11) with a standing seam metal roofing system which is in good condition. The second, between Unit 5 and Unit 1, has built-up roofing and is in poor condition. There are a limited number of roof-mounted conduits mounted on the roofs of the walkways.

| Recommendation | Category |
|---|---|
| • Remove roof-mounted conduits and re-roof walkways in poor condition. | **1** |

## Structural

The subject buildings were evaluated based on achieving a "life safety protection" performance objective. This performance objective represents minimum standards of seismic resistance generally recognized as providing adequate seismic risk protection to building occupants during large locally occurring earthquakes. The deficiencies identified in this report reflect the ASCE 31-03 Tier I results which were confirmed via rough code based analysis and/or ASCE 31-03 Tier II analysis as applicable.

**1. Administration Building (Unit 1)**
Unit 1 is a single story wood framed administration building with an original construction date of 1988. Based on the ASCE Tier I analysis, Unit 1 does not have any deficiencies. No retrofits are required at this time.
**This building receives a subjective rating of 1[5]**

**2. Classroom Buildings (Units 2 and 3)**
Units 2 and 3 are single story wood framed classroom buildings with CMU shear walls and a construction date of 1960. Based on the ASCE Tier I analysis, Units 2 and 3 have no deficiencies. No retrofits are required at this time.
**These buildings receive a subjective rating of 1**

**3. Restroom Building (Unit 4)**
Unit 4 is a single story wood framed restroom building with an original construction date of 1960 and with a remodel date of 1994. Based on the ASCE Tier I analysis, Unit 4 does not have any deficiencies. No retrofits are required at this time.
**This building receives a subjective rating of 1**

**4. Staff Building (Unit 5)**
Unit 5 is a single story wood framed staff building with CMU shear walls and an original construction date of 1960. Based on the ASCE Tier I analysis, Unit 5 does not have any deficiencies. No retrofits are required at this time.
**This building receives a subjective rating of 1**

**5. Restroom Building (Unit 6)**
Unit 6 is a single story wood framed restroom building with CMU shear walls and an original construction date of 1960. Based on the ASCE Tier I analysis, Unit 6 does not have any deficiencies. No retrofits are required at this time.
**This building receives a subjective rating of 1**

**6. Classroom Building (Unit 7)**
Unit 7 is a single story wood framed classroom building with CMU shear walls and an original construction date of 1961. Based on the ASCE Tier I analysis, Unit 7 does not have any deficiencies. No retrofits are required at this time.
**This building receives a subjective rating of 1**

[5] Refer to "Structural" division of the Methodology section for system rating description.

**7. Classroom Building (Unit 8)**
Unit 8 is a single story wood framed classroom building with CMU shear walls and an original construction date of 1960. Based on the ASCE Tier I analysis, Unit 8 does not have any deficiencies. No retrofits are required at this time.
**This building receives a subjective rating of 1**

**8. Multi-Use Building (MUR – Unit 9)**
Unit 9 is a single story wood framed MUR building with CMU shear walls and an original construction date of 1961 with an addition and remodel in 1998. Based on the ASCE Tier I analysis, Unit 9 does not have any deficiencies. No retrofits are required at this time.
**This building receives a subjective rating of 1**

For full text of structural report and applicable ASCE 31-03 Tier I checklist sheets, see Appendix 4.

## Mechanical

The following reports and comments are based on observations of the general condition of the mechanical systems and noticeable code issues resulting from an on-site visit, review of the existing record drawings and feedback from Mountain View Whisman School District staff. Each existing HVAC system should be reviewed, tested, and upgraded to correct the possible problems due to faulty instruments, controls, and other installation issues.

### 1. HVAC Equipment

The site was modernized in 1995 and the mechanical systems (HVAC equipment, ductwork, air distribution and controls) were replaced at that time. The HVAC equipment is fourteen years old. The typical life expectancy of HVAC equipment is fifteen years, if maintained per manufacturer, operation, and maintenance guidelines. The HVAC equipment has standard efficiency, but does not meet current Title 24 standards.
The existing HVAC equipment consists of three sets of split systems: gas furnace and roof mounted condensing Unit serving the library and administration area. Each classroom is served by a split system gas furnace and roof mounted condensing Unit. There are total of sixteen split systems. Split system gas furnace and ground mounted condensing unit serve the Stage Area. The Chiller and built up HVAC Unit with air filter, cooling coil, duct furnace and supply fan serve Multi-Purpose Area. For the IDF rooms, there is no air conditioning and no ventilation. For the restrooms, there is mechanical air conditioning and ventilation. The kitchen area is served by one exhaust hood. The existing ductwork and air distribution appears as original condition. The ductwork in the soffit does not span the entire wall of classroom, and two registers are too close together.

| Recommendation | Category |
|---|---|
| • At the end of life expectancy replace all HVAC Units with High Efficiency Units to meet or exceed the current Title 24 requirements. High Efficiency Units will use less energy and save on energy cost. | **2** |
| • For the IDF rooms, provide a split system: cooling-only fan coil and roof mounted condensing Unit, which will prevent overheating of telecommunication equipment. | **2** |
| • When replacing HVAC equipment, provide additional registers to insure proper air distribution. | **2** |
| • Replace HVAC equipment that will qualify for Green Building Certification, either LEED or CHPS. | **3** |

**2. Energy Management System (EMS)**

The existing Energy Management System (EMS) is manufactured by Alerton Technology. The existing EMS is Digital Direct Control, Windows-based with dial-up modem. The existing EMS is slow and hard to maintain because it fails frequently. Additionally, modular buildings are not tied to the EMS system.

| Recommendation | Category |
|---|---|
| • Replace existing Energy Management System (EMS) with new EMS, which is BACNet compatible with internet access through District network, easy to use, and password protected. The new EMS will be faster, easier to maintain, and meet current technology changes. | **2** |
| • Modular buildings should be connected to the Energy Management System (EMS). | **2** |

## Plumbing and Site Utilities

This report and comments are based on observations of the general condition of the plumbing systems and site utilities and noticeable code issues resulting from an on-site visit, review of the existing record drawings and feedback from Mountain View Whisman School District staff.

### 1. Plumbing System

Hose bibs at the exterior walls of the buildings do not have vacuum breaker devices. Plumbing equipment, such as water heaters, is in good condition. Typical life expectancy of plumbing equipment can be between 5-10 years, depending on the type of equipment. Plumbing fixtures such as urinals and water closets are in good condition but do not meet current water conservation standards.

| Recommendation | Category |
|---|---|
| • Provide vacuum breaker devices for all exterior hose bibs to prevent backflow into the potable water system. | 1 |
| • Replace plumbing equipment at the end of life expectancy. | 2 |
| • Replace existing plumbing fixtures, i.e., faucets, urinals, water closets, with high efficiency plumbing fixtures that meet green building certification like LEED or CHPS to reduce water consumption (i.e., install waterless urinals and low-consumption flush toilets). | 3 |

### 2. Gas

The site underground gas main and distribution to each building were installed in 1995. The site is supplied with one gas meter, with earthquake-actuated gas shutoff valve, located at the northwest side of the MUR building. The gas meter capacity is 2000 CFH with 0.25 psi gas pressure supply to each building.

Gas piping has a life expectancy of 25-30 years. The exterior steel gas piping runs underground and branches-off to each building with shut-off valve below grade. At the exterior wall of each building, steel gas pipe runs overhead to the mechanical closet. Gas piping system is in good condition.

### 3. Domestic Water

The site is supplied with one 2 inch water meter that is located at east of the campus by Easy Street. The domestic water piping has not been replaced since the original installation. The domestic water piping has a typical life expectancy of 25-30 years. Typical domestic mains constructed in the last 50 years were constructed of 4 inch diameter asbestos cement (AC) pipe. The use of AC pipe in potable water supply systems was common during the late 1950s up until the 1970s. Although no longer

manufactured, a substantial amount of AC pipe remains in service in North America and Europe.

The pipe materials utilized on the smaller lines vary from solvent-weld polyvinyl chloride pipe (PVC) to ductile iron pipe (DIP) with the likelihood of limited amounts of copper and/or ferrous metal pipe used at or in the individual building services.

| Recommendation | Category |
|---|---|
| • The domestic water system to the modular buildings is to be replaced when it is necessary because of leakage and age, which causes loss of water pressure. | 2 |

**4. Sanitary Sewer**

Typically, sanitary sewer systems have a life expectancy of 30-40 years depending on the piping material installed. In the 1960s and 1970s, sanitary main trunk lines were typically 6-inch vitrified clay pipe (VCP). Clay pipe has long been used for sanitary sewer mains and is still considered a competent product for this purpose. Depending on location, internal velocities, and adequate joints, VCP can have life expectancy up to 40 years.

| Recommendation | Category |
|---|---|
| • For the sanitary sewer system, either perform a video survey to assess the type of piping material and the percentage to be replaced or replace all piping. Apply high velocity water jetters to the system prior to a video survey. | 2 |

**5. Storm Drainage**

Typically, storm drainage systems have a life expectancy of 30-40 years depending on the piping material installed. Typical storm drainage piping materials include reinforced concrete pipe (RCP), corrugated metal pipe (CMP), polyvinyl chloride pipe (PVC), and high-density polyethylene pipe (HDPE).

| Recommendation | Category |
|---|---|
| • For the storm drainage system, either perform a video survey to assess the type of piping material and the percentage to be replaced or replace all piping. Apply high velocity water jetters to the system prior to a video survey. | 2 |

## Electrical

This report and comments to follow are based on observations of the general condition of the electrical systems and site utilities and noticeable code issues resulting from an on-site visit, review of the existing record drawings, and feedback from Mountain View Whisman School District staff.

### 1. Power

This campus is occupied by three tenants. The existing electrical service is of an 800A, 208/120V, 3 phase, 4 wire switchboard located outside of classroom building D. The switchboard was installed in 1989 of original built and is in poor condition with no spare capacity for growth. All the branch circuit panels are of the same built with no spare capacity or breaker spaces for future connection. The majority of the power distribution conduits were installed underground with some low voltage system conduits installed on the roof or above the covered walkway. Classrooms in Units 2, 3 7, and 8 have one run of wiremold with two (2) 20 amp circuits along the entry door and only two outlets at the side walls sharing one (1) 20 amp circuit with the adjacent classroom.

| Recommendation | Category |
|---|---|
| • Provide new electrical service and upsized switchboard with capacity for modernization. Provide new underground power and low voltage distribution to all buildings. Provide new panel board at each panel. | **2** |
| • Provide adequate power outlets and circuitry at all areas. | **2** |

### 2. Lighting

The majority of the light fixtures are of fluorescent source with many non--function ballasts and lamps. The lighting level is fair for the task performed in each area. Interior fixtures are controlled by local wall mounted switches. Exterior light fixtures are controlled by relays and time clocks. The exterior pathway and parking lot do not have adequate lighting for pedestrian safety.

| Recommendation | Category |
|---|---|
| • Replace all exterior light fixtures and add additional fixtures in the parking lot to improve campus safety. | **1** |
| • Replace all interior lighting fixtures with energy efficient lamps and ballasts of current technology to save operating costs. | **2** |
| • Provide automatic lighting control at interior space per title 24 requirement. | **2** |
| • Connect exterior lighting to EMS system for energy saving and ease of campus control. | **3** |

### 3. Fire Alarm

The campus is provided with a manual fire alarm system with exterior pull stations and horns. The main fire alarm panel Firelite MS 4424 non-addressable system is located in the main administrative office. The visual and audio notification device coverage on the campus does not comply with current code.

| Recommendation | Category |
|---|---|
| • Replace existing fire alarm system with new network based addressable fire alarm system with adequate notification devices throughout the campus to meet the current code. | 1 |

### 4. Paging/Clock

There is no PA/Clock system on site.

| Recommendation | Category |
|---|---|
| • Provide new Bogen paging/clock system per District standard for interior and exterior announcement coverage. | 1 |

### 5. Security

A security system was not observed.

| Recommendation | Category |
|---|---|
| • Provide new Sonitrol security system per District standard with door contacts, audio motion sensor at areas with exterior doors, windows and central monitoring capability. | 2 |

## Technology

These recommendations are based on the information obtained during the observation of the general condition of the schools and feedback from staff at Mountain View Whisman School District.

### 1. Structure Cabling

The copper cabling in this school is CAT5 and CAT 5E. Some of the CAT 5E cabling seems to have been installed in recent years. Station cabling is installed in plastic wiremold on the walls, and station jacks are a mix of blocks and different style faceplates. Cable labeling is a mix of styles, and some cables are not labeled. Due to the lack of data locations in each classroom, some rooms have cables stretching across the floor. There is fiber connectivity between the MDF and IDF, but due to the lack of labeling, the quantity of fiber to each IDF could not be determined. In addition, connection to some of the IDFs from the MDF was via copper cabling instead of fiber. Overall, the structure cabling is in fair condition.

| Recommendation | Category |
|---|---|
| • Replace cabling to bring it up to both current industry standards, in order to support the different applications (EMS, Video Safety, VoIP, web applications etc.). Recommendation is to upgrade the horizontal cabling to Category 6. | **3** |
| • Demolish and remove all abandoned cables. | **3** |
| • Upgrade the fiber backbone to the latest industry standards. | **3** |

### 2. IDF/MDF Environment

The MDF is located in the administration building in the center of the school. IDFs are typically located in the classroom, boiler/mechanical/electrical, or storage room and are dusty and dirty. Most locations are not easily accessible, and some locations do not get filtered air. This will cause equipment fans to fail and device shut-down due to heat or the complete failure of a network switch. The failure of a network will cause that entire building to go off-line for an extended period until the device is replaced Some IDFs are not equipped with a UPS, grounding, and proper horizontal wire manager, and the wire managers are not used effectively, creating a twisted and unmanageable wire system.

| Recommendation | Category |
|---|---|
| • Implement a solution that will safeguard the equipment located in the IDFs. | 2 |
| • Provide a clean, air-conditioned, and secure environment for network infrastructure, or relocate the IDF. | 2 |
| • Provide appropriate electrical, grounding, and UPS solutions in each IDF. | 2 |

### 3. Video Safety System

The District does not have a video safety system in place for this school.

| Recommendation | Category |
|---|---|
| • Implement a network based video safety solution that will monitor the exterior and problem areas of the campus. | 3 |

### 4. Data Network

The school is using old and out of warranty 3Com switches, Cisco switches and other mini Ethernet switches. The vents for the fans on the switches are clogged with dust and debris, therefore reducing the life of each switch. With the shift toward web-based applications, there is a need for increased Internet bandwidth. To provide wireless connectivity, some IDFs are equipped with a buffalo wireless access point (AP).

| Recommendation | Category |
|---|---|
| • Replace the current switching solution with the District's new switching standard (HP Procurve or equal) to support gigabit connection to the desktop. | 3 |
| • Replace the current wireless solution with an enterprise solution that allows the school to efficiently deploy, secure, and centrally manage the wireless LAN and meets current industry standard such as 802.11n. | 3 |

**5. Video Distribution Systems**

Most classrooms are equipped with coaxial cable for cable services. It seems that most classrooms are not using the service. We had limited access to the classrooms and therefore could not validate if all classrooms are using the system.

| Recommendation | Category |
|---|---|
| • Upgrade the current (coaxial cable) video distribution system to a network based system utilizing the newly installed cabling standard. With a network based solution, the classroom can have access to educational video streaming services from the Internet to enhance the learning experience of students. | 3 |

**6. Phone System**

Unable to determine the version or type of phone system, and the on-site staff was unable to provide such information.

**7. Smart Classroom**

Currently there is minimal integration of technology into the classroom. Some of the classrooms have components (projector, TV, VCR/DVD player) of a smart classroom and are currently using them.

| Recommendation | Category |
|---|---|
| • Develop a plan to implement the latest instructional technology in the classrooms to meet educational goals. | 3 |

# *Crittenden Middle School*

**General Information**

| | |
|---|---|
| Address: | 1701 Rock Street<br>Mountain View, CA 94043 |
| Telephone: | 650.903.6945 |
| Grade Levels: | 6-8 |
| 2008/2009 Enrollment: | 557 Students |

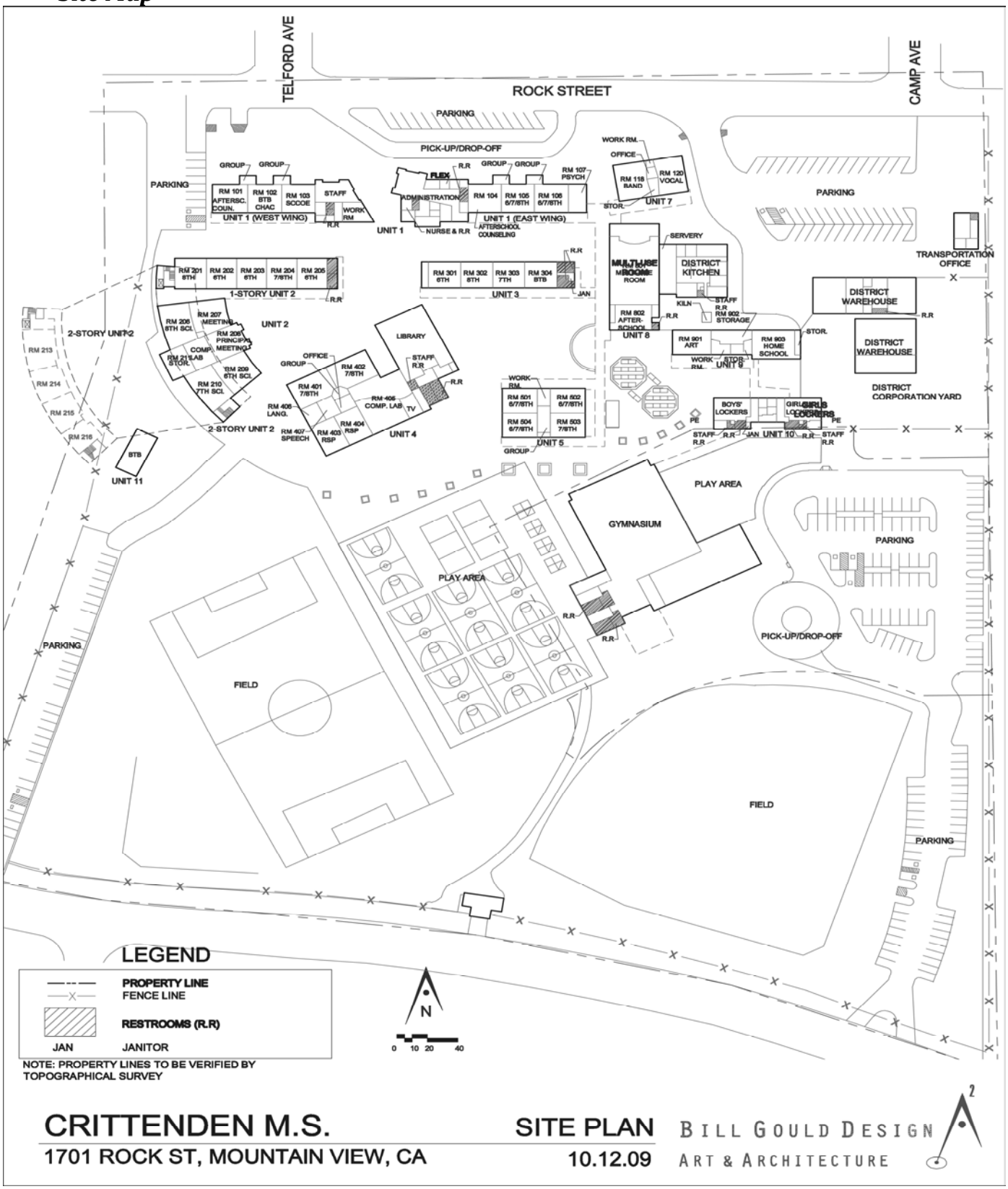
**Site Information:**

| | |
|---|---|
| Gross Acreage: | 20.94 Acres |
| Net Useable Acreage: | 17.24 Acres<br>*(Excluding corp. yard and creek easement)* |

**Building Information:**

| | |
|---|---|
| Original Construction: | 1948 |
| Additions: | 1950 - 2007 |
| Gross Building Area: | 97,053 sq. ft. |
| Site-built Construction: | 96,093 sq. ft. |
| Modular Construction : | 960 sq. ft. |

***Site Map***


TELFORD AVE
ROCK STREET
CAMP AVE
PARKING
PICK-UP/DROP-OFF
UNIT 1 (WEST WING)
UNIT 1
UNIT 1 (EAST WING)
ADMINISTRATION
NURSE & R.R
AFTERSCHOOL COUNSELING
UNIT 7
PARKING
TRANSPORTATION OFFICE
1-STORY UNIT 2
UNIT 3
MULTI-USE ROOM
DISTRICT KITCHEN
SERVERY
UNIT 8
DISTRICT WAREHOUSE
2-STORY UNIT 2
UNIT 2
LIBRARY
UNIT 4
UNIT 5
UNIT 9
DISTRICT CORPORATION YARD
BOYS' LOCKERS
GIRLS' LOCKERS
UNIT 10
UNIT 11
BTB
PLAY AREA
GYMNASIUM
FIELD
PARKING
PICK-UP/DROP-OFF
LEGEND
PROPERTY LINE
FENCE LINE
RESTROOMS (R.R)
JAN JANITOR
NOTE: PROPERTY LINES TO BE VERIFIED BY TOPOGRAPHICAL SURVEY
N
0 10 20 40
CRITTENDEN M.S.
1701 ROCK ST, MOUNTAIN VIEW, CA
SITE PLAN
10.12.09
BILL GOULD DESIGN
ART & ARCHITECTURE

## *Introduction*

Crittenden Middle School is located in the northeast portion of Mountain View and serves students in grades 6-8.

The campus was originally constructed in 1948. Since the original construction, a number of modernization and addition projects have taken place starting in the early 1950s and continuing through 2007.

The site is 20.94 acres and consists of three parcels, with the Permanente Creek running on the Western side of the property. The net usable space for the middle school is about 17.24 acres, due to the District's corporation yard and the easement required by Santa Clara Valley Water District for the Permanente Creek. The easement area of the creek is currently fenced off from the rest of the campus and is not being used in any capacity.

The buildings on this site are mostly site-built and include classrooms, a library, a Multi-Use Room (MUR) with District kitchen, a music building, an administration and staff building, locker building, and gymnasium. There is one modular building which houses BTB, one of MVWSD's special programs[1].

## *Planning Process*

The assessment process included review of drawings, site visits and field verification, meetings with District administrative staff and school committees, and, finally, evaluation of collected data. Following the assessment process, recommendations were developed to improve the conditions, and educational suitability of each site. These recommendations were classified based on categories described in "Basis of Assessment" in the Methodology section of this report. The existing conditions were evaluated utilizing a Good, Fair, Poor rating system also described in the Methodology section.

School specific data such as existing and recommended number of buildings, space areas, and maximum and allowable occupancies have been specified in Tables "A-1 Classroom Occupancy" and "A-2 Space Utilization."

Information provided is based on District enrollment, District policies and most recent codes and guidelines in effect at the time of this report. As these factors change, recommendations will be revised and reflected in the SFIP. The Conditions and Needs Analysis Report herein will serve as a working tool guiding the District's future Facilities Improvement Plan.

## *Summary*

While potential deficiencies were identified throughout the campus within this study, in no instance were they of a serious enough nature to warrant immediate action. Individual scopes of work and their projected costs will be developed as part of the upcoming SFIP to be implemented in future modernization projects.

[1] For a complete list and description of special programs refer to Appendix 3.

**Table A-1 Classroom Occupancy**

| Use | | Room # | Bldg Type /Number of Modulars | Modular Year Built[1] | Working Capacity[2] (# students) | Existing Classroom Area ( s.f) | Recommended Area (s.f.)[3] | Modular Bldg Area (s.f) | Other (s.f.) |
|---|---|---|---|---|---|---|---|---|---|
| **Full Day Programs** | | | | | | | | | |
| **6/7/8 grade** | | 105 | Site built | | 30 | 980 | 960 | | |
| | | 106 | Site built | | 30 | 980 | 960 | | |
| | | 201 | Site built | | 30 | 1,160 | 960 | | |
| | | 202 | Site built | | 30 | 1,140 | 960 | | |
| | | 203 | Site built | | 30 | 1,140 | 960 | | |
| | | 204 | Site built | | 30 | 1,140 | 960 | | |
| | | 205 | Site built | | 30 | 1,140 | 960 | | |
| | Science 8th | 206 | Site built | | 30 | 1,410 | 1,300 | | |
| | Science 6th | 209 | Site built | | 30 | 1,235 | 1,300 | | |
| | Science 7th | 210 | Site built | | 30 | 1,325 | 1,300 | | |
| | | 301 | Site built | | 30 | 915 | 960 | | |
| | | 302 | Site built | | 30 | 915 | 960 | | |
| | | 303 | Site built | | 30 | 915 | 960 | | |
| | | 401 | Site built | | 30 | 1,135 | 960 | | |
| | | 402 | Site built | | 30 | 1,135 | 960 | | |
| | | 501 | Site built | | 30 | 945 | 960 | | |
| | | 502 | Site built | | 30 | 945 | 960 | | |
| | | 503 | Site built | | 30 | 945 | 960 | | |
| | | 504 | Site built | | 30 | 945 | 960 | | |
| **Sub Total** | | | **0** | | **570** | **20,445** | | | |
| **Special Programs - Pull Out** | | | | | | | | | |
| BTB/CHAC | | 102 | Site built | | | 980 | | | |
| Band | | 118 | Site built | | | 1,435 | | | |
| Vocal | | 120 | Site built | | | 1,265 | | | |
| Comp. Lab | | 211 | Site built | | | 730 | | | |
| BTB | | 304 | Site built | | | 915 | | | |
| RSP | | 403 | Site built | | | 850 | 240 | | |
| RSP | | 404 | Site built | | | 830 | 240 | | |
| Comp. Lab | | 405 | Site built | | | 3,025 | | | |
| Language | | 406 | Site built | | | 325 | | | |
| Speech | | 407 | Site built | | | 320 | 200 | | |
| Group room | | 505 | Site built | | | 380 | | | |
| Afterschool program | | 802 | MUR | | | | | | 870 |
| Art | | 901 | Site built | | | 1,160 | | | |
| BTB | | Unit 11 | Modular | 1995 | | 960 | | 960 | |
| **Sub Total** | | | **1** | | | **13,175** | | **960** | |
| **Rooms Not Utilized** | | 213 | Site built | | 30 | 1,320 | | | |
| | | 214 | Site built | | 30 | 1,060 | | | |
| | | 215 | Site built | | 30 | 1,060 | | | |
| | | 216 | Site built | | | 795 | | | |
| | | 902 | Site built | | | 620 | | | |
| **Leased and/or City use** | | | | | | | | | |
| SCCOE | (city program) | 103 | Site built | | | 990 | | | |
| **Rooms Used as offices** | | | | | | | | | |
| After school counseling | | 101 | Site built | | | 990 | | | |
| After school counseling | | 104 | Site built | | | 990 | | | |
| Psychologist | | 107 | Site built | | | 490 | | | |
| Meetings | | 207 | Site built | | | 1,230 | | | |
| Principal meeting | | 208 | Site built | | | 1,150 | | | |
| Home School | District program | 903 | Site built | | | 1,520 | | | |
| **Sub Total** | | | **0** | | **90** | **12,215** | | | |
| **TOTALS** | | | **1** | | **660** | **45,835** | | **960** | **0** |

Notes:

1- Certification plates as well as available construction documents were checked to verify modular DSA #s and year of installation.

2- Working Capacity = 30 students/class for grades 6-8 based on current full day program room utilization (including rooms NOT utilized at all)

3- Per Title 5, California Code of Regulations (CCR) for new schools. (used as guidelines in this spreadsheet)

**Table A-2 Space Utilization**

| Use | Building Components | Current Number of Classes | Number of Modulars | Building Component Area (s.f.) | Existing Area (s.f.) | Current Enroll. | Working Capacity[7] (# students) | Recommended Area (s.f.) | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **Full Day Programs** | | | | | | | | | |
| **(6/7/8 grades)** | | 19 | 0 | | 20,445 | 557 | 570 | | |
| **Full Day Sub-total** | | **19** | **0** | | **20,445** | **557** | **570** | | |
| **Special Programs (Pull Out, Partial Day)** | | | | | see table A-1 for individual space areas. TOTAL AREA= 11,225 +13,175=25,390 | | | | |
| **BTB/CHAC** | | 3 | | | | | | | |
| **Band** | | 1 | | | | | | | |
| **Vocal** | | 1 | | | | | | | |
| **Comp. Lab** | | 2 | | | | | | | |
| **RSP** | | 2 | | | | | | | |
| **Language** | | 1 | | | | | | | |
| **Speech** | | 1 | | | | | | | |
| **Group room** | | 1 | | | | | | | |
| **Afterschool program** | | 1 | | | | | | | located in MUR, area not included in special program total. |
| **Art** | | 1 | | | | | | | |
| **Special Program Sub-Total:** | | **14** | **1** | | | | **0** | | |
| **Rooms Not Utilized** | | 5 | | | | | | | |
| **Leased and/or City use** | | 1 | | | | | | | |
| **Rooms Used as offices** | | 6 | | | | | | | |
| **Sub-Total:** | | **12** | | | **25,390** | | **90** | | |
| **Administration** | | | | | 3 390 | | | | |
| **Staff lounge/work room** | | | | | 1,990 | | | | |
| **Library[5]** | | | | | 3,775 | | | 1,114 | Min. area recommended |
| **Kitchen** | | | | | 4,340 | | | | |
| **Multi use[6]** | | | | | 5,930 | | | | |
| | Assembly | | | 2,735 | | | | 3,899 | area recommended is to accommodate current enrollment population during assemblies. Recommended area for 1/3 student population for dinning: 15*557/3=2,784 s.f. |
| | Classroom | | | 870 | | | | | |
| | Other (restroom, storage,office, stage) | | | 2,325 | | | | | |
| **Gymnasium** | | | | | 18,581 | | | | |
| **Lockers** | | | | | 4,507 | | | | |
| **Sub-Total:** | | **0** | **0** | | **42,513** | | | | |
| **Restrooms, storage, work rooms, stairs--not included in bldg areas** | | | | | 8,705 | | | | |
| **Total** | | **45** | **1** | | **97,053** | **557** | **660** | | |

| **General:** | **Existing** | **Recommended** |
|---|---|---|
| Property | 20.94 ac (3 parcels) | |
| Parking[1] | 160 stalls | 95 stalls |
| Accessible Parking[2] | 9 stalls | 5 stalls |

| **Existing Buildings:** | **# of Bldgs** | **% of Total** | **Bldg Area (s.f.)** |
|---|---|---|---|
| Total Building Area: | | | 97,053 |
| Modulars | 1 | 1% | 960 |
| Site-built | | 99% | 96,093 |

| **Play Areas:** | **Grade Level** | **Existing (s.f.)** | **CDE Recommended area(s.f.)[4]** |
|---|---|---|---|
| Hard-Court | 6-8 | 57,700 | 60,000 |
| Fields | 6-8 | 259,300 | 191,600 |

| **Students /Staff[3]** | | |
|---|---|---|
| Current Enrollment | 557 | **"Small"** size school per CDE |
| Staff | 60 | |

| **Restrooms :** | **Existing # Toilets, # Urinals** | **Required[8] # Toilets, # Urinals** |
|---|---|---|
| Students | 21,7U | 24, 4U |
| Staff (including Gym) | 8 | 5, 1U |
| Gym/Lockers | 16, 5U | 14, 3U |

| **Classrooms** | |
|---|---|
| Undersize classes (< 945 s.f.) | 14 |

**Notes:**

1- Number of parking stalls recommended per CDE guidelines based on current number of teaching stations (including 1 for gym and 1 in MUR)

2- Number of accessible parking spaces required per CBC based on number of parking stalls

3- Current student enrollment and number of staff provided by school

4- Play areas recommended based on current enrollment per CDE guidelines.

5- Recommended area is based on Title 5, CCR, for new middle schools, used as guideline only.

6- Recommended area is determined per California Building Code (CBC) based on current enrollment. Existing building maximum allowable occupants per CBC: Assembly = 390, Dining =182

7- Working Capacity = 30 students/class for grades 6-8 based on current full day program room utilization (including rooms NOT utilized at all)

8- Required number of toilets is calculated based on current enrollment and staff per CPC. Quantities may vary if calculated based on space areas and their Occupant Load Factor (OLF) as indicated in CPC.

## *Assessment Summary*

Existing facilities were evaluated from functional, code compliance, architectural and engineering perspectives. Summary of the findings along with proposed recommendations of each division are provided herein.

# Architectural

### 1. Buildings

### 1.1. Classrooms[2]

There are a total of forty-five classrooms, of which five are not utilized, one is used for a city program, and six are used as offices and/or meeting rooms. There is only one modular building on this site. Some classrooms do not meet the CDE area recommendation of 960 s.f.

- **Site-Built Classrooms (Units 2, 3, 5, 7, 9 and parts of Units 1 and 4)**
  The site-built classroom buildings were originally constructed in the late 1940s with additions from the early 1950s up until 1964. The campus was modernized 1998, modernization included construction of the two-story Unit 2 classroom building, though due to acoustical issues the second floor is not being utilized efficiently.

  The conditions of the building exterior and the interior finishes vary depending on the age of the building. This report indicates a general range.

  The composition shingle roofing system on most buildings is in good to fair condition, with a shingle mansard and built-up roofing in some locations. Exterior finishes include stucco which is generally in good condition, some board and batten that is in poor condition, doors which vary from good to poor, newer aluminum single-glazed windows and older aluminum sash single-glazed windows. A few particular issues identified are poor storefront glazing at the entry of Unit 1, and some plastic glazing at Unit 9.

  Interior finishes include glue up acoustical tile and suspended acoustical tile ceilings in good to poor condition, tackable wall covering in good to fair condition, gypsum wall board in good to fair condition, acoustical wall tile in music area in good condition, and carpet and VCT flooring, both ranging from good to poor condition. Casework is a mix of older and newer, and ranges from good to fair condition in most buildings. The teaching walls[3] in Unit 1 are in good condition. Interior doors are generally in good to fair condition.

[2] Classrooms referred to herein are spaces where grade level and/or special programs are taught, regardless of room size.

[3] A teaching wall is a piece of casework that integrates storage behind sliding whiteboards.

Accessories such as whiteboards, chalk boards and screens are generally in good condition. Window coverings vary from building to building, including curtains, mini-blinds and louvers, and are generally in good to fair condition. The metal stair in two-story Unit 2 is in fair condition. The elevator is functioning, although the cabin is in fair to poor condition

- **Modular Classrooms (Unit 11)**
  There is only one modular unit on campus. It was constructed in 1995 and is used for special programs. It has a metal ramp that is in fair condition but does not meet current accessibility code requirements. The finishes are generally in fair to poor condition.

| Recommendation | Category[4] |
|---|---|
| • Replace ramp to meet current accessibility code requirements. | 1 |
| • Replace and/or upgrade interior and exterior finishes in fair or poor condition. | 2 |
| • Improve acoustics in Unit 2-two story building. | 2 |
| • Expand classrooms to meet CDE area guidelines. Refer to Table A-1 | 3 |

### 1.2. Multi-Use Room (MUR – Unit 8)

The Multi-Use Room (MUR) was originally built in 1954 with the District kitchen being added during the modernization and addition project (*see Section 1.7 District Kitchen*) in 1998. It consists of an assembly area, a classroom, and restrooms. The assembly area includes a permanent stage and is used for drama, school assemblies, and during lunch periods.

The assembly open space is not large enough to accommodate the entire school population during assemblies, though it is sufficient to accommodate one-third of the school population during lunch periods. The main non-conformity in this building includes a non-compliant stage left exit.

The exterior finishes of this building include doors that are in fair condition, steel and wood fixed windows which are in fair to poor condition. The aluminum single-glazed windows and skylights are in good condition.

Interior finishes include a glue up acoustical tile ceiling in good to fair condition, gypsum board and tackable walls which are in good condition, and the VCT floor is in fair to poor condition. Other finishes including the interior doors and newer casework in the classroom are in fair condition.

[4] Refer to "Basis of Assessment" in the Methodology section of this report for category description.

Specialty items include a permanent stage with no wings and no cross-over, wood floor and stairs which are in fair condition, the curtains and lift are in good condition, and the foldout benches/tables are in fair condition.

| Recommendation | Category |
|---|---|
| • Upgrade stage exits to meet current accessibility code requirements. | 1 |
| • Replace and/or upgrade interior and exterior finishes in fair or poor condition. | 2 |
| • Expand MUR to accommodate entire school population during school assemblies. | 3 |

### 1.3. Administration and Staff (Unit 1)

Administration and staff rooms are located in the administration-classroom wings originally constructed in 1948. The additions to these buildings were constructed in 1998 when the rest of the campus was modernized. This unit is divided into two wings and is located near the main entrance of the campus. The west wing comprises of administrative offices (four offices+ two conference rooms), a nurse's room, and classrooms while the east wing contains the staff work room, lounge and classrooms.

There are sufficient restrooms to meet current staff population (staff restrooms outside Unit 1 are included in the count), as well as an adequate number of accessible restrooms per CPC and DSA requirements. There are no apparent non-conformities in these areas of Unit 1.

The roofing system on these buildings is comprised of composition shingles and built-up roofing, both of which are in fair condition. Exterior finishes on these buildings include stucco which is in generally good condition with some cracks, doors in good to fair condition, and single-glazed aluminum windows and skylights which are in good condition.

Interior finishes include glue up tiles, suspended ceiling system with acoustical tile, and gypsum board ceilings all of which are in good condition The gypsum board walls are in good to fair condition, and the carpet and VCT flooring are in good condition. The casework is in good condition and the interior doors are in good to fair condition. The toilet partitions and sheet vinyl flooring in the restrooms are in good condition.

Accessories such as mini blinds and white boards are generally in good condition. The appliances are also in good condition.

| Recommendation | Category |
|---|---|
| • Replace and/or upgrade interior and exterior finishes in fair or poor condition. | 2 |

### 1.4. Library (part of Unit 4)

The library was originally built in 1976 with modernization conducted in 2000. The size of the library meets CDE minimum area guidelines per current enrollment. The library building consists of the library, computer lab, student restrooms, and several classrooms. Main non-conformities include high thresholds and non-compliant drinking fountains and signage.

Roofing on this building is built-up roofing. Interior finishes include glue-up acoustical tile ceiling which is in good condition, tackable wall covering and gypsum board walls that are in fair condition. The carpet is in poor condition while the VCT flooring at the entrance is in fair condition. The interior doors, storefront walls, and casework are all generally in good condition.

The accessories such as curtains, whiteboards, chalkboards and screens are generally in good condition.

| Recommendation | Category |
|---|---|
| • Perform a detailed Accessibility Survey to identify and address all barriers to accessibility (drinking fountains, signage and path-of- travel). | 1 |
| • Replace and/or upgrade interior and exterior finishes in fair or poor condition. | 2 |

### 1.5. Restrooms

Student restrooms are spread throughout the campus, located in most classroom wings, and the MUR. There are not sufficient restrooms to meet the current student population requirements (less by three fixtures), although the number of accessible restrooms is adequate per CPC and DSA regulations.

The exterior doors have push/pull hardware without hold-opens, and the windows are aluminum single-glazed windows. Interior finishes consist of gypsum board ceilings ceramic tile wainscot, with gypsum board above the wainscot, and epoxy flooring, all in good condition. The toilet compartments are also in good condition.

| Recommendation | Category |
|---|---|
| • Provide additional restrooms to meet current enrollment population requirements per CPC | 1 |

### 1.6. Gymnasium and Locker Building (Unit 10)

The gymnasium, Whisman Sports Center, was constructed in 1993 as a joint use facility with the City of Mountain View. The building is located on a separate parcel to the south side of the campus, which is also owned by the District. It comprises of a lobby, restrooms, gym with bleachers, and an activity area.

The locker building was constructed in two phases, the boy's section in the early 1960s and the girl's section prior to the renovation in 1993, exact date unknown, which included a covered walkway to the new gymnasium. It contains lockers, PE offices, and several workrooms.

There are sufficient restrooms in the gym and locker buildings per CPC requirements. The main non-conformities in this building include inadequate clear space in the women's restrooms, besides non-compliant accessories, non-accessible hardware and benches at the lockers, the lack of accessible seating within the gymnasium, and non-compliant or missing signage.

The roofing system on these buildings is comprised of clay tile roof as well as built up roofing, both in fair condition. The exposed wood soffits are in good condition, and the Kalwall panels are also in good condition. The exterior finishes include stucco which is in good condition, although it needs to be re-painted. The doors and single-glazed fixed aluminum windows are in fair condition.

The glue up acoustical tile and gypsum board ceilings in the locker rooms and the restrooms are in good condition. The gypsum board walls are in fair condition. The wall finished include gypsum board which is in fair condition, carpet walls in good condition, and the wall covering in the lobby which is in poor condition. The flooring finishes include wood in good condition with base that needs to be replaced and carpet in the lobby and the office which is in poor condition. Restroom finishes include ceramic tile walls and floors both of which are in fair condition. The Interior doors and windows as well as casework are in fair condition.

Specialty items include bleachers, operable partitions, and scoreboard in fair condition.

| Recommendation | Category |
|---|---|
| • Upgrade restrooms and locker rooms to meet current accessibility code requirements. | **1** |
| • Provide accessible seating at the bleachers. | **1** |
| • Replace and/or upgrade interior and exterior finishes in fair or poor condition. | **2** |
| • Replace specialty items in fair or poor condition. | |

### 1.7. District Kitchen (Unit 8)

The District kitchen was constructed as an addition to the MUR building on the Crittenden campus in 1998.

Roofing on this building is built up roofing which is in good condition. Exterior finishes on this building include stucco in fair condition and doors in poor condition (difficult to open and have broken thresholds).

Interior finishes include suspended washable acoustical tile ceiling, which is in good condition in most areas except at the speedline and the staff lounge where there are

some recurring leaks. The gypsum board walls are in fair condition in at the staff lounge and in poor condition at dry storage. The FRP wall covering is in good condition except at the staff restroom where it is in fair condition and ceramic tile at the speedline is in good condition. The flooring finishes include epoxy which is in fair to poor condition with some cracking along the perimeter, concrete in fair condition in the dry storage area, and carpet in fair condition at the staff lounge. The janitor's closet leaks and is affecting the finishes in its vicinity. The Casework in the staff lounge is in good condition.

Accessories such as vertical blinds in the staff lounge are in fair condition. Specialty items in the kitchen including stainless steel foodservice equipment are in generally good condition except for the walk-in refrigeration units that have leakage problems. The exterior seal around the walk in-in refrigerator unit is broken or missing. The appliances in the kitchen and lockers in the staff lounge are in fair condition.

| Recommendation | Category |
|---|---|
| • Replace and/or upgrade interior and exterior finishes in fair or poor condition. | **2** |
| • Conduct a detailed evaluation of foodservice equipment by foodservice consultant to repair and replace any equipment that is not functioning properly or that does not comply with current codes. | **2** |

## 2. General Site

### 2.1. Site Accessibility

Several path-of-travel issues were identified throughout the campus. These include high thresholds, non-accessible second exits, and steep slopes at accessible paths to buildings and parking lots. Additionally, interior/exterior drinking fountains are generally not code compliant, and some of the signage is either missing or non-compliant.

Concrete paving at walkways is generally in good condition, with the exception of the MUR where it is in poor condition and the Gym where it is in fair to poor condition.

| Recommendation | Category |
|---|---|
| • Perform a detailed Accessibility Survey to identify and address all barriers to accessibility per CBC and DSA provisions. (Drinking fountains, signage, restrooms, and path-of- travel). | **1** |
| • Replace and repair concrete paving where it is either a safety hazard, barrier to accessibility, or compromises long term sustainability. | **1** |

### 2.2. Parking, Pick-Up/Drop-Off and Bus Loading

The campus has an adequate number of parking spaces per CDE guidelines and the required number of accessible spaces for the current enrollment population.

Designated spaces have been provided for pick-up/drop-off to allow students to enter and exit school grounds safely. In addition, there are four parking lots, one of which is located on the same parcel as the gymnasium.

Asphalt paving is in fair condition in all areas except at the street parking on the north side of campus where it is in poor condition.

| Recommendation | Category |
|---|---|
| • Replace and repair asphalt paving where it is either a safety hazard, barrier to accessibility, or compromises long term sustainability. | **1** |

### 2.3. Hard-Court, Play Equipment Areas and Fields

Play areas consist of hard-court areas, as well as, an athletic field. In order to meet CDE's design guidelines the hard-court play areas should be expanded.

The asphalt play area is in good to fair condition with some isolated cracks.

| Recommendation | Category |
|---|---|
| • Replace and repair asphalt paving where it is either a safety hazard, barrier to accessibility, or compromises long term sustainability. | **1** |
| • Expand hard-court play areas to meet CDE design guidelines for the current enrollment population. | **3** |

### 2.4. Covered Walkways

The built-up roofing system on covered walkways is in poor condition.

| Recommendation | Category |
|---|---|
| • Replace built-up roofing | **2** |

## Structural

The subject buildings were evaluated based on achieving a "life safety protection" performance objective. This performance objective represents minimum standards of seismic resistance generally recognized as providing adequate seismic risk protection to building occupants during large locally occurring earthquakes. The deficiencies identified in this report reflect the ASCE 31-03 Tier I results which were confirmed via rough code based analysis and/or ASCE 31-03 Tier II analysis as applicable.

### 1. Staff and Classroom Building (Unit 1 West)

Unit 1 West is a single story wood framed and concrete shear wall staff and classroom building with an original construction date in the late 1940s and addition and remodel in 1998. Very little information was found on the structure. The analysis was performed based on the design of similar buildings as well as our visual inspection and whatever drawings were available. Based on ASCE Tier I analysis, Unit 1 West does not have any deficiencies. No retrofits are required at this time.

**This building receives a subjective rating of 1[5]**

### 2. Administration and Classroom Building (Unit 1 East)

Unit 1 East is a single story wood framed and concrete shear wall administration and classroom building with an original construction date in the late 1940s and addition and remodel in 1998. Very little information was found on the structure. The analysis was performed based on the design of similar buildings as well as our visual inspection and whatever drawings were available. Based on ASCE Tier I analysis, Unit 1 East does not have any deficiencies. No retrofits are required at this time.

**This building receives a subjective rating of 1**

### 3. Classroom Building (Unit 2)

Unit 2 is a two story wood framed classroom building with a construction date of 1998. Based on ASCE Tier I analysis, Unit 2 does not have any deficiencies. No retrofits are required at this time.

**This building receives a subjective rating of 1**

### 4. Classroom Building (Unit 3)

Unit 3 is a single story wood framed classroom building with an original construction date in the early 1950s and addition and remodel in 1998. Very little information was found on the structure. The analysis was performed based on the design of similar buildings as well as our visual inspection and whatever drawings were available. Based on ASCE Tier I analysis, Unit 3 has two deficiencies. First, the exterior walls in the transverse direction do not meet the shear stress check. Second, the north and south walls have openings greater than 80% of the length which do not meet the 1.5 to 1 aspect ratio.

**This building receives a subjective rating of 3**

| Recommendation | Category |
|---|---|
| • Provide plywood sheathing with nailing at 3" o.c. to the inside of the exterior walls in the transverse direction. | 1 |

### 5. Classroom and Library Building (Unit 4)

[5] Refer to the "Structural" division of the Methodology section of this report for system rating description.

Unit 4 is a single story wood framed classroom and library building with a construction date of 1976. Based on ASCE Tier I analysis, Unit 4 does not have any deficiencies. No retrofits are required at this time.
**This building receives a subjective rating of 1**

**6. Classroom Building (Unit 5)**
Unit 5 is a single story wood and steel framed classroom building with a construction date of 1964. Based on ASCE Tier I analysis, Unit 5 does not have any deficiencies. No retrofits are required at this time.
**This building receives a subjective rating of 1**

**7. Classroom Building (Unit 7)**
Unit 7 is a single story wood and steel framed classroom building with a construction date of 1960. Based on ASCE Tier I analysis, Unit 7 has one deficiency. The exterior walls in the longitudinal direction do not meet the shear stress check.
**This building receives a subjective rating of 3**

| Recommendation | Category |
|---|---|
| • Provide plywood sheathing with nailing at 3" o.c. on both sides of the exterior walls in the longitudinal direction. | 1 |

**8. Multi-Use Building (MUR – Unit 8)**
Unit 8 is a single story wood framed Multi-Use building with an original construction date of 1954 and an addition and remodel in 1998. Very little information was found on the structure. The analysis was performed based on the design of similar buildings as well as our visual inspection and whatever drawings were available. Based on ASCE Tier I analysis, Unit 8 does not have any deficiencies. No retrofits are required at this time.
**This building receives a subjective rating of 1**

**9. Classroom Building (Unit 9)**
Unit 9 is a single story wood framed classroom building with an original construction date of 1954 and an addition and remodel in 1998. Very little information was found on the structure. The analysis was performed based on the design of similar buildings as well as our visual inspection and whatever drawings were available. Based on ASCE Tier I analysis, Unit 9 has two deficiencies. First, the exterior walls in the transverse direction do not meet the shear stress check. Second, the north and south walls have openings greater than 80% of the length which do not meet the 1.5 to 1 aspect ratio.
**This building receives a subjective rating of 3**

| Recommendation | Category |
|---|---|
| • Provide plywood sheathing with nailing at 3" o.c. to the inside of the exterior walls in the transverse direction. | 1 |

**10. Locker Building (Unit 10)**
Unit 10 is a single story wood framed and steel cantilevered column locker building with an original construction date of 1960, an addition date of 1962, and remodel in 1993. No information was found on the 1962 addition. Based on visual inspection we assumed that the addition is a mirror image of the existing structure. Based on the ASCE Tier I analysis, Unit 10 does not have any deficiencies. No retrofits are required at this time.
**This building receives a subjective rating of 1**

**11. Gymnasium**
The gymnasium is a single story wood, light gage and steel framed building with an original construction date of 1993. Based on ASCE Tier I analysis, the gymnasium does not have any deficiencies. No retrofits are required at this time.
**This building receives a subjective rating of 1**

**12. District Kitchen (Unit 8 )**
The District kitchen is a single story wood framed building with an original construction date of 1998. Both the seismic loads acting in transverse and longitudinal direction are resisted by exterior shear walls. All shear walls in both directions were found to be adequate. In addition we visited the site to inspect the buildings foundation with respect to differential settlement and cracking of the slab and foundation. We did not find any significant evidence of structural cracking or signs differential settlement of the buildings slab or foundation. Based on ASCE Tier I analysis, the District kitchen does not have any deficiencies. No retrofits are required at this time.
**This building receives a subjective rating of 1**

## Mechanical

The following reports and comments are based on observations of the general condition of the mechanical systems and noticeable code issues resulting from an on-site visit, review of the existing record drawings and feedback from Mountain View Whisman School District staff. Each existing HVAC system should be reviewed, tested, and upgraded to correct the possible problems due to faulty instruments, controls, and other installation issues.

### 1. HVAC Equipment

Crittenden Middle School was modernized in 1998 and the mechanical systems (HVAC equipment, ductwork, air distribution, and controls) were replaced at that time. The Whisman Sports Center was constructed in 1993. The Whisman Sports Center HVAC equipment is sixteen years old. The typical life expectancy of HVAC equipment is fifteen years, if maintained per manufacturer, operation, and maintenance guidelines. The HVAC equipment has standard efficiency but does not meet current Title 24 standards.

The existing HVAC equipment consists of rooftop air-conditioning package units serving the administration area, multi-use area, library, and a couple of classrooms; there is a total of fifteen package air-conditioning units. The classrooms are served by a split system: gas furnace and rooftop condensing units with a total of forty-one sets of split systems. For the IDF rooms, there is no air conditioning and no ventilation. Each restroom is served by an exhaust fan with a total of nineteen exhaust fans. The existing ductwork and air distribution appears to be in original condition. The ductwork and registers are in the ceilings or walls.

The kitchen building consists of offices, kitchen area, servery, snack bar, restroom and lounge area. The kitchen building is served by three rooftop air conditioning units. The kitchen and dishwasher area is served by two exhaust fans and one make up air unit. The kitchen restroom is served by one exhaust fan.

The Whisman Sports Center HVAC equipment consists of six rooftop heating ventilation units that serve the rest of the gymnasium, including the lobby, physical education activity areas, etc. There is also one gas unit heater serving one physical education activity area. Each restroom is served by rooftop heating ventilation units, which serve other areas. These restrooms should be served by separate mechanical ventilation and air conditioning units. The existing ductwork and air distribution appears to be in fair condition.

| Recommendation | Category |
|---|---|
| • Replace all HVAC units with high efficiency units to meet or exceed the current Title 24 requirements. High efficiency units will use less energy and save on energy costs | **2** |
| • For the IDF rooms, provide a split system (cooling-only fan coil and roof mounted condensing unit) which will prevent overheating of telecommunication equipment. | **2** |

| | |
|---|---|
| • Due to leakage, dust and age, replace all existing ductwork and air distribution when replacing HVAC units. | **2** |
| • Replace HVAC equipment with new that will qualify for Green Building Certification, either LEED or CHPS. | **3** |

**2. Energy Management System (EMS)**

The existing Energy Management System (EMS) is manufactured by Alerton Technology. The existing EMS is digital direct control, Windows-based with dial-up modem. The existing EMS is slow and hard to maintain because it fails frequently. Additionally the modular building at this site is not tied to the EMS system.

| **Recommendation** | **Category** |
|---|---|
| • Replace existing Energy Management System (EMS) with new EMS, which is BACNet compatible with internet access through District network, easy to use, and password protected. The new EMS will be faster, easier to maintain and meet current technology changes. | **2** |
| • Modular buildings should be connected to the Energy Management System (EMS). | **2** |

## Plumbing and Site Utilities

This report and comments to follow are based on observations of the general condition of the plumbing systems and site utilities and noticeable code issues resulting from an on-site visit, review of the existing record drawings, and feedback from Mountain View Whisman School District staff.

### 1. Plumbing System

The plumbing fixtures in the buildings and kitchen equipment were replaced in the 1998 modernization project. Hose bibs at exterior walls of the buildings are without vacuum breaker device. Plumbing equipment, such as water heaters, are in good condition. Typical life expectancy of plumbing equipment can be between 5-10 years, depending on type of equipment. Plumbing fixtures such as urinals and water closets are in good condition but do not meet the current water conservation standards.

| Recommendation | Category |
|---|---|
| • Provide vacuum breaker devices for all exterior hose bibs to prevent backflow into the potable water system. | 1 |
| • Replace plumbing equipment at the end of life expectancy. | 2 |
| • Replace existing plumbing fixtures, i.e., faucets, urinals, water closets, with high efficiency plumbing fixtures that meet green building certification like LEED or CHPS to reduce water consumption (i.e., install waterless urinals and low-consumption flush toilets). | 3 |

### 2. Gas

Crittenden Middle School is supplied with two gas meters, without earthquake-actuated gas shutoff valves. The first gas meter which has a capacity of 7000 CFH is located at the northwest of Building 1 (West Wing) and the second gas meter with a capacity of 3000 CFH is on the Northeast side of the Kitchen building. Site gas piping connected to the first gas meter was replaced in the 1998 modernization project.

The Whisman Sports Center is supplied with one gas meter, with an earthquake-actuated gas shutoff valve. This gas meter has a capacity of 3000 CFH and is located on the east side of Middlefield Rd.

Gas piping has a typical life expectancy of 25-30 years. The exterior steel gas piping runs underground and branches-off to each building with a riser at the exterior wall and a shut-off valve below grade. The interior steel gas piping is inside the building, below the roof and connects to the mechanical equipment in the building or on the roof.

| Recommendation | Category |
|---|---|
| • Provide an earthquake-actuated gas shutoff valve for the gas system to automatically shut off gas in the event of a seismic disturbance. | 1 |

### 3. Domestic Water

The building domestic water system was replaced in the 1998 modernization project. The site domestic water system was not replaced. The site is supplied with one 3 inch water meter located in the front of the campus by Rock Street. The interior water piping in the buildings are made of copper. Typical underground site domestic mains constructed in the last 50 years were constructed of 4 inch diameter asbestos cement (AC) pipe.

The pipe materials utilized on these smaller lines vary from solvent-weld polyvinyl chloride pipe (PVC) to ductile iron pipe (DIP) with the likelihood of limited amounts of copper and/or ferrous metal pipe used at or in the individual building services.

| Recommendation | Category |
|---|---|
| • The site domestic water system is to be replaced together with the sanitary sewer and storm drainage systems. | 2 |

### 4. Sanitary Sewer

The site sanitary sewer system was not replaced in the modernization project. Typically, sanitary sewer systems have a life expectancy of 30-40 years depending on the piping material installed. In the 1960s and 1970s, sanitary main trunk lines were typically 6-inch vitrified clay pipe (VCP). Clay pipe has long been used for sanitary sewer mains and is still considered a competent product for this purpose. Depending on location, internal velocities, and adequate joints, VCP can have life expectancy of up to 40 years.

| Recommendation | Category |
|---|---|
| • For the sanitary sewer system, either perform a video survey to assess the type of piping material and the percentage to be replaced or replace all piping. Apply high velocity water jetters to the system prior to a video survey. | 2 |

### 5. Storm Drainage

Typically, storm drainage systems have a life expectancy of 30-40 years depending on the piping material installed. Typical storm drainage piping materials include reinforced concrete pipe (RCP), corrugated metal pipe (CMP), polyvinyl chloride pipe (PVC), and high-density polyethylene pipe (HDPE).

| Recommendation | Category |
|---|---|
| • For the storm drainage system, either perform a video survey to assess the type of piping material and the percentage to be replaced or replace all piping. Apply high velocity water jetters to the system prior to a video survey. | 2 |

## Electrical

This report and comments to follow are based on observations of the general condition of the electrical systems and site utilities and noticeable code issue resulting from an on-site visit, review of the existing record drawings, and feedback from Mountain View Whisman School District staff.

### 1. Power

There are two electrical services for Crittenden Middle School. One is of a 2000A, 480/277V, 3 phase, 4 wire switchboard "MSBA" located outside of classroom building B serving the Administration building, Classroom buildings 1 and 4. A second service of 1600A, 480/277V, 3 phase, 4 wire switchboard "MSBB" is located at north side of the kitchen serving the classroom buildings 3, 5, 7, 8, 10 and the cafeteria/kitchen building 8. Both switchboards were installed in 1997 and are in good condition. According to PG&E record, the current peak usage on the combined services is about 700 amp with spare capacity of 2000 amp for future usage. All the power distribution conduits were installed underground. Most of the areas had adequate power outlets for the current use. There were four (4) 20amp circuits connected to each classroom and they were not used to the maximum capacity. All distribution and branch circuit panels are in good condition with spare capacity and breaker spaces for future need. Some of the electrical rooms were used for storage and violated the code requirement of 36" clearance in front of the panel board.

Three branch circuiting power panels located in the central kitchen have adequate capacity and are in good condition.

A 600A, 208/120V, 3 phase, 4 wire switchboard located in the electrical room serves power to the Whisman Sports Center. The switchboard was installed in 1993 and is in good condition. The facility is operated on a 180KW standby diesel generator as the community emergency shelter. All branch circuit panels are in good condition but with limited breaker spaces for future need. All power and low voltage system distribution conduits were installed underground. Most of the areas had adequate power outlets for the space used.

| Recommendation | Category |
|---|---|
| • Maintain code required clearance in front of all electrical panel boards and equipment. | 1 |
| • Replace existing branch circuit panelboards with new to provide additional breaker spaces for Whisman Sports Center | 1 |

**2. Lighting**

The majority of the light fixtures are of fluorescent source with electronic ballast and T8 lamps. The lighting level is adequate for the task performed in each area and meets the requirement of current Title 24 efficiency standards. For the Crittenden Middle School Interior fixtures are controlled by ceiling or wall mounted occupancy sensors with override switches. Classrooms with multiple entries have only one set of control switches at one location which is a safety concern as well as inconvenience to the users. Exterior light fixtures are controlled by photocell and time clock via a low voltage lighting control panel. The parking lot has adequate lighting for pedestrian safety.

The lighting fixtures in the Whisman Sports Center are controlled by the line-voltage switch banks in the hall way and all the other area lights are controlled by local wall switches. Exterior light fixtures are controlled by photocell and time clock. The parking lot has adequate lighting for pedestrian safety.

| Recommendation | Category |
|---|---|
| • Provide three-way switching at areas with multiple entries. | 2 |
| • Connect exterior lighting to EMS system for energy savings and for ease of campus control. | 2 |
| • Replace existing lighting fixtures with energy efficient lamps and ballasts of current technology to save operating costs. | 3 |

**3. Fire Alarm**

The campus is provided with a manual/automatic addressable fire alarm system with pull stations, smoke detectors and notification devices. The existing Firelite MS9200 panel located in the Building 3 electrical room is in working condition but it does not have capacity for campus wide automatic system conversion with additional detectors and annunciation devices. The visual and audio notification device coverage on the campus does not comply with current code.

| Recommendation | Category |
|---|---|
| • Replace existing fire alarm system with new network based addressable fire alarm system with adequate notification devices throughout the campus to meet the current code. | 1 |

**4. Paging/Clock**

Existing Bogen PA/Clock system located in the electrical room of Building 3 provides for campus announcements, master clock, and bell schedule. The campus has good announcement coverage and the system is in good condition.

**5. Security**

Bay Alarm provides a working, adequate security monitoring of the campus through motion sensors and door contacts. Bay Alarm provides third-party monitoring and is hired by the District.

| Recommendation | Category |
|---|---|
| • Replace existing system with Sonitrol audio motion sensors and door contacts to be monitored by Sonitrol as District standard. | **2** |

## Technology

These recommendations are based on the information obtained during the observation of the general condition of the schools and feedback from staff at Mountain View Whisman School District.

### 1. Structure Cabling

The copper cabling in this school is CAT5 and was installed over ten years ago. Station cabling is installed in plastic wiremold on the walls, and station jacks are a mix of blocks and different style faceplates. Cable labeling is a mix of styles, and some cables are not labeled. There are twelve strands of 62.5/125 multi-mode fiber from each IDF to the MDF. There are RG-11s from the MDF to each IDF and RG-6 to each end station in the building for broadband distribution. In buildings that do not have an IDF, Category 5 underground cables are fed into each building from the closest IDF. In addition, 50 pairs of copper are distributed from the MDF to each IDF. Overall, the structure cabling is in fair condition.

| Recommendation | Category |
|---|---|
| • Replace cabling to bring it up to current industry standards, in order to support the different applications (EMS, Video Safety, VoIP, web applications etc.). Recommendation is to upgrade the horizontal cabling to Category 6. | **3** |
| • Demolish and remove all abandoned cables. | **3** |
| • Upgrade the fiber backbone to the latest industry standards. | **3** |

### 2. IDF/MDF Environment

The MDF is located in an electrical room inside building 3. IDFs are typically located in the classroom, boiler/mechanical/electrical, or storage room and are dusty and dirty. Most locations are not easily accessible, and some locations do not get filtered air. This will cause equipment fans to fail and device shut-down due to heat or the complete failure of a network switch. The failure of a network will cause that entire building to go off-line for an extended period until the device is replaced Some IDFs are not equipped with a UPS, grounding, and proper horizontal wire manager and the wire managers are not used effectively, creating a twisted and unmanageable wire system. The MDF and some IDFs have fibers that are either not terminated or properly protected from the dusty environment. The Whisman Sports Center conduits ties into the Crittenden Middle School.

| Recommendation | Category |
|---|---|
| • Implement a solution that will safeguard the equipment located in the IDFs. | 2 |
| • Provide a clean, air-conditioned, and secure environment for network infrastructure, or relocate the IDF. | 2 |
| • Provide appropriate electrical, grounding, and UPS solutions in each IDF. | 2 |
| • Secure an area of the Whisman Sports Center to create an IDF for this building. | 3 |

**3. Video Safety System**

The District does not have a video safety system in place for this school.

| Recommendation | Category |
|---|---|
| • Implement a network based video safety solution that will monitor the exterior and problem areas of the campus. | 3 |

**4. Data Network**

The school is using old and out of warranty 3Com switches, Cisco switches and other mini Ethernet switches. The vents for the fans on the switches are clogged with dust and debris, therefore reducing the life of each switch. With the shift toward web-based applications, there is a need for increased Internet bandwidth. To provide wireless connectivity, some IDFs are equipped with a buffalo wireless access point (AP). There is no data network equipment for Whisman Sports Center.

| Recommendation | Category |
|---|---|
| • Replace the current switching solution with the District's new switching standard (HP ProCurve or equal) to support gigabit connection to the desktop. | 3 |
| • Replace the current wireless solution with an enterprise solution that allows the school to efficiently deploy, secure, and centrally manage the wireless LAN and meets current industry standard such as 802.11n. | 3 |
| • Install the District's new switching standard (HP ProCurve or equal) to support gigabit connection to the desktop for Whisman Sports Center. | 3 |
| • Implement an Enterprise wireless solution that allows the District to efficiently deploy, secure, and centrally manage the wireless LAN for Whisman Sports Center. | 3 |

**5. Video Distribution System**

Most classrooms are equipped with coaxial cable for cable services. It seems that most classrooms are not using the service. Classrooms are typically equipped with a wall mounted TV with a VCR. There is no video distribution system for Whisman Sports Center.

| Recommendation | Category |
|---|---|
| • Upgrade the current (coaxial cable) video distribution system to a network based system utilizing the newly installed cabling standard. With a network based solution, the classroom can have access to educational video streaming services from the Internet to enhance the learning experience of students. | 3 |

**6. Phone System**

The phone system, sipXecs IP PBX, was installed during the summer of 2009. Phones are Polycom 321/331 and 450s. There is no phone system for Whisman Sports Center.

| Recommendation | Category |
|---|---|
| • Install and implement the District's current phone system, sipXecs IP PBX, for the Whisman Sports Center. | 3 |

**7. Smart Classroom**

Currently there is minimal integration of technology into the classroom. Some of the classrooms have components (projector, TV, VCR/DVD player) of a smart classroom and are currently using them. There is no smart classroom in the whisman sport center.

| Recommendation | Category |
|---|---|
| • Implement the latest in instructional technology in the classroom by converting each classroom to a smart classroom. | 3 |

# *Graham Middle School*

**General Information**

| | |
|---|---|
| Address: | 1175 Castro Street<br>Mountain View, CA 94040 |
| Telephone: | 650.526.3570 |
| Grade Levels: | 6-8 |
| 2008/2009 Enrollment: | 673 Students |

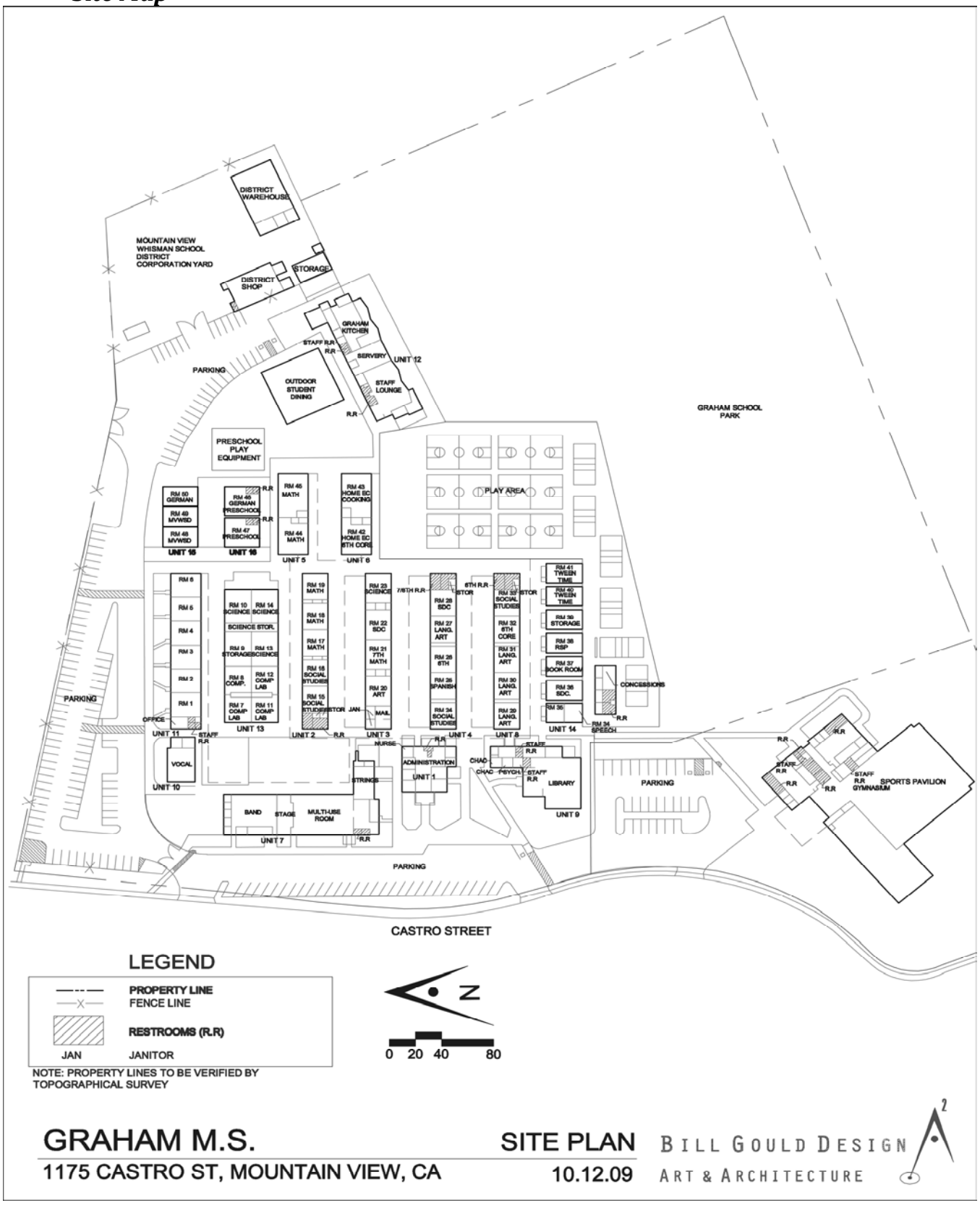
**Site Information:**

| | |
|---|---|
| Gross Acreage: | 16.87 Acres +<br>2.89 Acres *(City of Mountain View property on which the Gym is located)* |
| Net Useable Acreage: | 16.87 Acres |

**Building Information:**

| | |
|---|---|
| Original Construction: | 1957 |
| Additions: | 1958 - 2000 |
| Gross Building Area: | 111,663 sq. ft. |
| Site-built Construction: | 99,183 sq. ft. |
| Modular Construction : | 12,480 sq. ft. |

***Site Map***


DISTRICT WAREHOUSE
MOUNTAIN VIEW WHISMAN SCHOOL DISTRICT CORPORATION YARD
STORAGE
DISTRICT SHOP
GRAHAM KITCHEN
STAFF R.R
R.R
SERVERY
UNIT 12
PARKING
OUTDOOR STUDENT DINING
STAFF LOUNGE
R.R
GRAHAM SCHOOL PARK
PRESCHOOL PLAY EQUIPMENT
PLAY AREA
RM 60 GERMAN
RM 46 GERMAN PRESCHOOL
RM 45 MATH
RM 43 HOME EC COOKING
RM 49 MVWSD
RM 47 PRESCHOOL
RM 44 MATH
RM 42 HOME EC 8TH CORE
RM 48 MVWSD
UNIT 15
UNIT 16
UNIT 5
UNIT 6
RM 41 TWEEN TIME
RM 40 TWEEN TIME
RM 39 STORAGE
RM 38 RSP
RM 37 BOOK ROOM
RM 36 SDC.
RM 34 SPEECH
CONCESSIONS
PARKING
OFFICE
UNIT 11
STAFF R.R
UNIT 13
UNIT 2
R.R
UNIT 3
UNIT 4
UNIT 8
UNIT 14
NURSE
R.R
ADMINISTRATION
UNIT 1
CHAD
CHAC
PSYCH.
STAFF R.R
LIBRARY
UNIT 9
VOCAL
UNIT 10
STRINGS
BAND
STAGE
MULTI-USE ROOM
UNIT 7
R.R
PARKING
STAFF R.R
SPORTS PAVILION GYMNASIUM
PARKING
CASTRO STREET
LEGEND
PROPERTY LINE
FENCE LINE
RESTROOMS (R.R)
JAN JANITOR
NOTE: PROPERTY LINES TO BE VERIFIED BY TOPOGRAPHICAL SURVEY
N
0 20 40 80
GRAHAM M.S.
1175 CASTRO ST, MOUNTAIN VIEW, CA
SITE PLAN
10.12.09
BILL GOULD DESIGN
ART & ARCHITECTURE

## *Introduction*

Graham Middle School serves grades 6-8. All students pursue a comprehensive, academically-oriented core curriculum. All students study literature, writing, history, geography, mathematics, science, health, and physical education. Exploratory classes are offered in 6th and 7th grade and electives in 8th grade. Over 60% of the students participate in instrumental or vocal music. Over 29 languages are represented at Graham School. Twenty-three percent of the students have English as a second language.

The campus was originally constructed in 1957. Since the original construction, a number of modernization and addition projects have taken place starting in 1958 and continuing through 2000.

The middle school site is 16.87 acres; in addition to which, due to a joint use agreement with the city of Mountain View, the gymnasium is located on adjacent City property of 2.89 acres. Buildings on this site are a combination of modular and site-built buildings which include classrooms, Pre-schools, a library, a Multi-Use Room (MUR), an administration building, a kitchen, cafeteria, and a gymnasium.

## *Planning Process*

The assessment process included review of drawings, site visits and field verification, meetings with District administrative staff and school committees, and, finally, evaluation of collected data. Following the assessment process, recommendations were developed to improve the conditions and educational suitability of each site. These recommendations were classified based on categories described in “Basis of Assessment” in the Methodology Section of this report. The existing conditions were evaluated utilizing a Good, Fair, Poor rating system also described in the Methodology.

School specific data such as the existing and recommended number of buildings, space areas, and maximum and allowable occupancies have been specified in Tables “A-1 Classroom Occupancy” and “A-2 Space Utilization.”

Information provided is based on District enrollment, District policies and most recent codes, and guidelines in effect at the time of this report. As these factors change, recommendations will be revised and reflected in the SFIP. The Conditions and Needs Analysis Report herein will serve as a working tool guiding the District’s future Facilities Improvement Plan.

## *Summary*

While potential deficiencies were identified throughout the campus within this study, in no instance were they of a serious enough nature to warrant immediate action. Individual scopes of work and their projected costs will be developed as part of the upcoming SFIP to be implemented in future modernization projects.

**Table A-1 Classroom Occupancy**

| Use | Room # | Bldg Type /Number of Modulars | Modular Year Built[1] | Working Capacity[2] (# students) | Existing Classroom Area ( s.f) | Recommended Area (s.f.)[3] | Modular Bldg Area (s.f) | Other (s.f.) |
|---|---|---|---|---|---|---|---|---|
| **Full Day Programs** | | | | | | | | |
| Science | 10 | site built | | 30 | 1,260 | 1,300 | (rec. area includes st | |
| Science | 13 | site built | | 30 | 1,290 | 1,300 | | |
| Science | 14 | site built | | 30 | 1,260 | 1,300 | | |
| Social Studies | 15 | site built | | 30 | 945 | 960 | | |
| Social Studies | 16 | site built | | 30 | 945 | 960 | | |
| Math | 17 | site built | | 30 | 945 | 960 | | |
| Math | 18 | site built | | 30 | 945 | 960 | | |
| Math | 19 | site built | | 30 | 965 | 960 | | |
| 7th Math | 21 | site built | | 30 | 1,060 | 960 | | |
| SDC | 22 | site built | | 12 | 1,060 | 960 | | |
| Science | 23 | site built | | 30 | 1,080 | | | |
| Social Studies | 24 | site built | | 30 | 965 | 960 | | |
| Spanish | 25 | site built | | 30 | 945 | 960 | | |
| 6th Core | 26 | site built | | 30 | 945 | 960 | | |
| Language Arts | 27 | site built | | 30 | 945 | 960 | | |
| SDC | 28 | site built | | 12 | 945 | 960 | | |
| Language Arts | 29 | site built | | 30 | 965 | 960 | | |
| Language Arts | 30 | site built | | 30 | 945 | 960 | | |
| Language Arts | 31 | site built | | 30 | 945 | 960 | | |
| 6th Core | 32 | site built | | 30 | 945 | 960 | | |
| Language Arts/Social Studies | 33 | site built | | 30 | 945 | 960 | | |
| SDC | 36 | Modular | 1981 | 12 | 960 | 960 | 960 | |
| Home Ec/6th Core | 42 | site built | | 30 | 1,335 | | | |
| Home Ec/Cooking | 43 | site built | | 30 | 1 670 | | | |
| Math | 44 | site built | | 30 | 1,395 | 960 | | |
| Math | 45 | site built | | 30 | 1,690 | 960 | | |
| **Sub Total** | **1** | | | **726** | **28,295** | | **960** | |
| **Special Programs (Pull Out, Partial Day)** | | | | | | | | |
| Computer Lab | 7 | site built | | | 980 | | | |
| Computer Lab | 8 | site built | | | 1,035 | | | |
| Computer Lab | 11 | site built | | | 980 | | | |
| Computer Lab | 12 | site built | | | 1,035 | | | |
| Art | 20 | site built | | | 1,060 | | | |
| Speech | 34 | Modular | 1981 | | 480 | 480 | 480 | |
| RSP | 38 | Modular | 1989 | | 960 | 240 | 960 | |
| Band MUR | Unit 7 | site built | | | | | | |
| Strings MUR | Unit 7 | site built | | | | | | |
| Vocal | Unit 10 | site built | | | 1,325 | | | |
| **Special Program Sub Total** | **2** | | | **0** | **7,855** | | **1,440** | |
| **Rooms Not Utilized** | | | | | | | | |
| Empty | 1 | site built | | 30 | 1,015 | | | |
| Empty | 2 | site built | | 30 | 1,015 | | | |
| Empty | 3 | site built | | 30 | 1,015 | | | |
| Empty | 4 | site built | | 30 | 1,015 | | | |
| Empty | 5 | site built | | 30 | 1,015 | | | |
| Empty | 6 | site built | | 30 | 1,015 | | | |
| Empty bot. spch or RSP | 35 | Modular | 1981 | 12 | 480 | | 480 | |
| **Rooms not utilized Sub Total** | **1** | | | **192** | **6,570** | | **480** | |
| **Rooms used as Storages** | | | | | | | | |
| Science Storage | 9 | site built | | | | | | 1,290 |
| Book Room | 37 | Modular | 1981 | | | | 960 | 960 |
| Storage | 39 | Modular | 1989 | | | | 960 | 960 |
| **Leased Rooms** | | | | | | | | |
| Tween Time City Afterschoo | 40 | Modular | 1989 | | 960 | | 960 | |
| Tween Time City Afterschoo | 41 | Modular | 1992 | | 960 | | 960 | |
| German | 46 | Modular | 2000 | | 1,440 | | 1,440 | |
| Pre-school | 47 | Modular | 2000 | | 1,440 | 1,100 | 1,440 | |
| MVWSD | 48 | Modular | 2000 | | 960 | | 960 | |
| MVWSD | 49 | Modular | 2000 | | 960 | | 960 | |
| German | 50 | Modular | 2000 | | 960 | | 960 | |
| **Sub Total** | **9** | | | | **7,680** | **1,100** | **9,600** | **3,210** |
| **TOTAL** | **13** | | | **918** | **50,400** | | **12,480** | **3,210** |

Notes:
1- Certification plates as well as available construction documents were checked to verify modular DSA #s and year of installation.
2- Working Capacity = 30 students/class for grades 6-8 based on current full day program room utilization (+ rooms NOT utilized at all)
3- Per Title 5, California Code of Regulations (CCR) for [illegible]

**Table A-2 Space Utilization**

| Use | Building Component | Current Number of Classes | Number of Modulars | Building Component Area(s.f.) | Existing Area (s.f.) | Current Enrollment | Working Capacity[7] (# students) | Recommended Area (s.f.) | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **Full Day Programs** | | | | | See Table A-1 for individual space areas, TOTAL CLASSROOM= 50,400 S.F. | | | | |
| Science | | 4 | | | | | | | |
| Social Studies | | 3 | | | | | | | |
| Math | | 6 | | | | | | | |
| Spanish | | 1 | | | | | | | |
| 6th Core | | 2 | | | | | | | |
| Language Arts | | 5 | | | | | | | |
| Home Ec | | 2 | | | | | | | |
| SDC | | 3 | | | | | | | |
| **Full Day Subtotal** | | **26** | **1** | | | **673** | **726** | | |
| **Special Programs (Pull Out, Partial Day)** | | | | | | | | | |
| Computer Lab | | 4 | | | | | | | |
| Art | | 1 | | | | | | | |
| Speech | | 1 | | | | | | | |
| RSP | | 1 | | | | | | | |
| Vocal | | 1 | | | | | | | |
| **Special Program Sub-Total:** | | **8** | **2** | | | **0** | **0** | | |
| **Rooms Not Utilized** | | 7 | | | | | | | |
| **Rooms used as Storages** | | 3 | | | | | | | |
| **Leased and/or City use** | | 7 | | | | | | | |
| **sub-total** | | **17** | **10** | | **50,400** | **0** | **192** | | |
| **Administration** | | | | | 3 050 | | | | |
| **Kitchen/Food service/staff lounge** | | | | | 7,342 | | | | |
| | Food Service | | | 1,225 | | | | | |
| | Staff Dining | | | 1,960 | | | | | |
| | Other (restroom, storage,office, kitchen) | | | 4,157 | | | | | |
| **Library[5]** | | | | | 5,030 | | | | |
| | Library space | | | 3,785 | | | | 1,346 | |
| | Offices and restrooms | | | 1,245 | | | | | |
| **Multi Use[6]** | | | | | 9,825 | | | | |
| | Assembly | | | 3,965 | | | | 4,711 | Area recommended to accommodate current enrollment population in assemblies. |
| | Band | **1** | | 2,200 | | | | | |
| | Strings | **1** | | 950 | | | | | |
| | Other (restroom, stage, storage) | | | 2,710 | | | | | |
| **Gymnasium** | | | | | 26,532 | | | | |
| **Sub-Total:** | | **2** | **0** | | **51,779** | | | | |
| **Other spaces not included in bldg areas (Storage, RR,..)** | | | | | 6 274 | | | | |
| **Total** | | **53** | **13** | | **111,663** | **673** | **918** | | |

| **General:** | **Existing** | | **Recommended** | |
|---|---|---|---|---|
| Property | 16.87 ac | | | |
| | 2.89 ac | (City of MV-Gym) | | |
| Parking [1] | 176 stalls | | 97 | stalls |
| Accessible Parking[2] | 9 stalls | | 5 | stalls |
| **Existing Buildings:** | **# of Modular Bldgs** | **% of Total** | **Bldg Area (s.f.)** | |
| Total Building Area: | | | 111,663 | |
| Modulars | 13 | 11% | 12,480 | |
| Site-built | | 89% | 99,183 | |

| **Play Areas:** | **Grade Level** | **Existing (s.f.)** | **Recommended area(s.f.) [4]** | |
|---|---|---|---|---|
| Play Equipment | Preschool | 3,150 | 3,000 | (aprox. 40 enroll,german count?) |
| Hard-Court | 6-8 | 60,580 | 72,000 | |
| Fields/Turf | 6-8 | 323,650 | 191,600 | |

| **Students /Staff [3]** | | |
|---|---|---|
| Current Enrollment | 673 | **"Small"** size school per CDE |
| Staff | 70 | |

| **Restrooms :** | **Existing # Toilets, # Urinals (U)** | **Required [8] # Toilets, # Urinals (U)** |
|---|---|---|
| Pre-school (Rm 47 only) | 2 | 2 |
| Students | 40, 13U | 29, 5u |
| Staff (including Gym) | 17,2U | 5,1u |
| Gym | 14,4U | 14, 3u |

| **Classrooms** | |
|---|---|
| Undersize classes (< 945 s.f.) | 2 |

**Notes:**

1- Number of parking stalls recommended per CDE guidelines based on number of teaching stations, rooms used as storage or not utilized have been excluded for calculation.purposes

2- Number of accessible parking spaces required per CBC based on number of parking stalls

3- Current student enrollment and number of staff provided by school

4- Play areas recommended based on current enrollment per CDE guidelines and Childcare Licensing requirements.

5- Recommended area is based on Title 5, CCR, for new middle schools, used as guideline only.

6- Recommended area is determined per California Building Code (CBC) based on current enrollment, exisitng assembly maximum allowable occupants per CBC=566

7- Working Capacity = 30 students/class for grades 6-8 based on current full day program room utilization (including rooms NOT utilized )

8- Required number of fixtures is calculated based on current enrollment and staff per CPC and Childcare Licensing requirements. Quantities may vary if calculated based on space areas and their Occupant Load Factor (OLF) as indicated in CPC.

## *Assessment Summary*

Existing facilities were evaluated from functional, code compliance, architectural, and engineering perspectives. Summary of the findings along with proposed recommendations of each division are provided herein.

# Architectural

### 1. Buildings

### 1.1. Classrooms[1]

There are a total of fifty-three classrooms, of which seven are not utilized, three are used as storage and seven have been leased. Eleven of these classrooms are modular buildings. Some classrooms do not meet the CDE area recommendations of 960 s.f.

- **Site-built Classrooms (Units 2, 3, 4, 5, 6, 8, 10, 11 and 13)**
  The site-built classroom buildings were originally constructed between 1957 and 1994; with the modernization of these buildings occurring in 2000.

  The buildings have a composition shingle roofing system along with stucco soffits, both of which are in generally good condition. The exterior finishes including stucco, the exterior doors, wood sash single-glazed and aluminum single-glazed windows are all in good condition with the exception of the doors in Unit 13, which are in fair condition. All buildings except Units 11 and 13 have clerestories with obscured glass.

  Interior finishes include glue up acoustical tile ceilings and tackable wall covering, which are both in good condition. VCT flooring is in good condition in Units 5 and 6 and in good to fair condition in all other units. The casework is mostly older and in good to fair condition in most buildings, except in the science rooms, where it is in poor condition. There are no teaching walls in any of the classrooms on this campus.

  The accessories such as whiteboards, chalk boards, screens and curtains are all generally in fair condition in most places, and in good condition in Units 5, 6, and 13.

- **Modular Classrooms (Units 14, 15 and 16)**
  The modular buildings at this site were built between 1981 and 2000. Therefore, the conditions of the finishes vary depending on the age of the building. The modulars in Unit 14 were installed between 1981 and 1993, and have a variety of ramps, including concrete and metal, all in fair condition, and wood in poor condition. Units 15 and 16 were added in 2000 and have flush entries.

[1] Classrooms referred to herein are spaces where grade level and/or special programs are taught, regardless of room size.

The exterior finishes including T-111 siding and doors are in fair condition. The aluminum single-glazed windows, and aluminum double-glazed windows on all in good condition.

The interior finishes include suspended acoustical tile ceiling, tackable wall covering, VCT, and casework, all of which are in good condition, in Units 15 and 16. In Unit 14, the suspended acoustical tile ceiling is in fair to poor condition, the wall covering is in good to fair condition, the carpet flooring is in good condition, and the casework is in fair condition. Preschool restrooms have FRP wall panels and sheet vinyl flooring in good condition.

The accessories such as whiteboards, chalk boards, screens, and mini-blinds are generally in good condition with the exception of the mini-blinds in Unit 14 which are in fair condition.

| **Recommendation** | **Category[2]** |
|---|---|
| • Replace and/or upgrade interior and exterior finishes in fair or poor condition. | **2** |
| • Replace accessories in fair to poor condition. | **2** |
| • Remove and replace modular buildings. 1995 | **2** |
| • Expand classrooms to meet CDE area guidelines. | **3** |

### 1.2. Multi-Use Room (MUR - Unit 7)

The Multi-Use Room (MUR) was originally built in 1957 with the modernization and additions being carried out in 2000. It consists of an assembly area, band room, and strings room. It contains a permanent stage and an adjoining lounge area separated by an operable partition and is used for PTA meetings, orientations, District events, and school assemblies.

The assembly open space is not large enough to accommodate the entire school population during assemblies.

The built up roofing system on this building is in good condition. The exterior finishes include the doors which are in fair condition, wood sash single-glazed hopper, and aluminum hopper windows, all of which are in good condition.

[2] Refer to "Basis of Assessment" in the Methodology section of this report for category description.

Interior finishes in this building include glue up acoustical tile ceiling, wall covering, wall acoustical panels with some surface mounted wiremold, VCT, and carpet flooring all of which are generally in good condition. Other interior finishes include interior doors which are in fair condition.

The accessories such as window curtains, whiteboards, and screens are in good condition. The built-in tables and benches are in fair condition.

Specialty items in the assembly area include a non-acoustic operable partition and a permanent stage with one short wing, a cross-over, and one exit leading to the music room. The stage floor, stairs, curtain, and accessible lift are all generally in good condition.

| Recommendation | Category |
|---|---|
| • Replace and/or upgrade interior and exterior finishes in fair or poor condition. | **2** |
| • Provide acoustical operable walls in MUR to allow concurrence of multiple functions. | **3** |
| • Expand the MUR to accommodate the entire school population during assemblies. | **3** |

### 1.3. Administration (Unit 1)

The administration building was originally constructed in 1957 with an addition in 1995. The building is located near the main entrance of the campus and comprises of administrative offices (four offices+ two conference rooms) and a nurse's room. The work room is in adjacent classroom building Unit 4, and the mail room is in Unit 3. The staff lounge is in Unit 12.

There are sufficient restrooms to meet the current staff population per CBC requirements (staff restrooms outside the administration building are included in the count). The main non-conformities in this building include lack of any accessible restrooms, a dedicated restroom or accessible sink in the Nurse's room, and accessible counters.

The clay tile roofing system on this building, along with exposed wood soffits, is in good condition. The exterior finishes on this building including the stucco the exterior doors, the single-glazed steel fixed and the aluminum hopper windows are all generally in good condition.

The interior finishes, including both glue up and suspended acoustical tile ceiling, are in good condition. The wall covering, carpet and VCT flooring are in good condition. The casework and the interior doors are in good condition.

Accessories such as mini blinds and white boards are generally in good condition. The appliances are also in good condition.

| Recommendation | Category |
|---|---|
| • Upgrade restrooms to meet current accessibility code requirements. | 1 |
| • Upgrade casework and sinks to meet current accessibility code requirements. | 1 |
| • Provide a dedicated student restroom for the nurse's room. | 2 |
| • Replace and/or upgrade interior and exterior finishes in fair or poor condition. | 2 |

### 1.4. Library (Unit 9)

The library was originally built in 1959 with an addition and complete modernization in 2000. The size of the library meets CDE area guidelines per current enrollment. The library building contains the library and a small wing houses three offices, the book storage, a workroom and three restrooms. Non-conformities in this building include non-accessible restrooms, casework and counters.

The clay tile roofing system on this building is, along with stucco soffits, in good condition. The exterior finishes include stucco which is in good condition, doors that are in fair condition, single-glazed wood and steel sash hopper windows which are in fair condition.

The interior finishes include glue up acoustical tile ceiling, wall covering and acoustical wall panels, all of which are in good condition. The interior doors, carpet and VCT flooring are in fair condition. The casework is in good condition, though the island bookshelves are not anchored.

The accessories such as mini blinds are generally in good condition.

| Recommendation | Category |
|---|---|
| • Upgrade restrooms to meet current accessibility code requirements. | 1 |
| • Anchor all bookshelves. | 1 |
| • Replace casework and counters to meet current accessibility code requirements. | 1 |
| • Replace and/or upgrade interior and exterior finishes in fair or poor condition. | 2 |

### 1.5. Restrooms

Student restrooms are located in three of the site-built classroom wings and in the MUR. There are sufficient restrooms to meet current student population requirements, as well as the adequate number of accessible restrooms per CPC and DSA regulations.

The exterior doors have push/pull hardware, and the windows are wood sash single-glazed, both are in good condition. The interior finishes consist of gypsum board ceilings, ceramic tile thickset up to 7', gypsum board wall covering above 7', and epoxy flooring. They are all are in good condition. The toilet partitions are also in good condition.

### 1.6. Gymnasium

The gymnasium, Mountain View Sports Pavilion, was constructed in 1985. The building is located on the City of Mountain View parcel on the south side of the campus and is comprised of a lobby, locker rooms, a gym with bleachers and an activity area.

There are sufficient restrooms to meet the current enrolled population. Main non-conformities in this building include path-of-travel issues such as non- accessible expansion joints, high thresholds, clearance issues at accessible showers in the locker rooms, non-compliant drinking fountains in the lobby, and lack of accessible seating.

The roofing system of this building is comprised of clay tile roof with exposed board soffits and kalwall panels, both of which are in fair condition. Exterior finishes including stucco and the doors are both in fair condition. Window systems include double-glazed aluminum windows which are in fair condition, steel single-glazed windows which are in good condition, and pane aluminum windows that are in fair to poor condition.

The interior finishes that are in this building include glue up acoustical tile ceilings, which are in fair condition and gypsum board ceilings which are in fair condition everywhere except in the locker rooms where they are in good condition. The exposed steel ceiling is in good condition in the activity area, and the exposed wood ceiling is in fair condition in the lobby. The wall finishes include gypsum board which is in fair condition everywhere except in the locker rooms where it is in good condition. The carpet walls are in good condition, and the tackable wall in the lobby is in poor condition. The flooring finishes include wood which is in fair condition, with the base in poor condition. The carpet is in poor condition in the lobby, and the epoxy flooring is in poor condition in the locker rooms. The restroom finishes include ceramic tile walls and floors which are in fair condition and ceramic tile countertops which are in poor condition. The interior wood veneer doors are in fair to poor condition. The toilet partitions are in fair condition in locker rooms and in poor condition in restrooms.

The accessories such as white boards in the locker rooms are generally in poor condition. Specialty items include bleachers and operable partitions which are in poor condition and retractable goals and scoreboards which are in fair condition. The lockers in the locker rooms are in good condition and the benches are in poor condition. The sound system in this building was never in working condition.

| Recommendation | Category |
|---|---|
| • Perform a detailed Accessibility Survey to identify and address all barriers to accessibility (drinking fountains, signage, restrooms, accessible seating and path-of- travel). | 1 |
| • Replace and/or upgrade interior and exterior finishes in fair or poor condition. | 2 |
| • Replace all accessories and specialty items in fair to poor condition. | 2 |
| • Repair sound system. | 3 |

### 1.7. Kitchen and Staff Lounge (Unit 12)

Unit 12 was originally constructed in 1960 as a locker building. In 1994 it was converted into the Central Kitchen for the Mountain View School District with a servery and staff lounge. Following the District's merger in 2001, the central kitchen was moved to Crittenden Middle School; hence the kitchen currently serves the Graham campus only.

Main non-conformities in the kitchen building include inadequate clear space at the staff restroom, an inaccessible workstation and sink in the staff dining area, and non-compliant or missing signage. The roofing system is built up roofing and is in fair condition. The exterior finishes include doors in fair condition and stucco and single-glazed wood hopper windows which are both in good condition.

The interior finishes include glue up acoustical tile ceilings which vary from good to poor condition, gypsum board ceiling which is in good condition, FRP wall covering which is in fair condition. The carpet flooring is in good condition, the sheet vinyl flooring and VCT flooring are in good to fair condition, The casework and doors are fair condition, stainless steel surfaces, including roll-up window at kitchen and the speedline, are both in good condition. Restroom interiors include ceramic tile walls and flooring both in good condition.

The accessories such as curtains are generally in good condition.

### 1.8. Outdoor Dining

The outdoor dining structure was constructed in 1994. Itcan be completely enclosed when needed. The open space is large enough to accommodate one half of the school population during lunch periods.

The roofing system is standing and is metal seam with Kalwall panels and is in good condition. The exterior finishes include roll-up doors with mesh above and concrete floors, both in fair condition.

The accessories include benches and tables all in good condition.

| Recommendation | Category |
|---|---|
| • Upgrade restrooms to meet current accessibility code requirements. | 1 |
| • Upgrade casework and sinks to meet current accessibility code requirements. | 1 |
| • Replace and/or upgrade interior and exterior finishes in fair or poor condition. | 2 |

## 2. General Site

### 2.1. Site Accessibility

Several path-of-travel issues have been noticed throughout the campus; these include high thresholds, non-accessible second exits, and steep slopes and cross-slopes at accessible paths to buildings and parking. Additionally, interior/exterior drinking fountains and signage are generally not code compliant.

The concrete paving at walkways is generally in fair condition with the exception of the MUR where it is in poor condition. The concrete paving at the administration building which is in good condition.

| Recommendation | Category |
|---|---|
| • Perform a detailed Accessibility Survey to identify and address all barriers to accessibility per CBC and DSA provisions. (Drinking fountains, signage, restrooms, and path-of- travel). | 1 |
| • Replace and repair concrete paving where it is either a safety hazard, barrier to accessibility, or compromises long term sustainability. | 1 |

### 2.2. Parking, Pick-Up/Drop-Off and Bus Loading

The campus has adequate number of parking spaces per CDE guidelines and the required number of accessible spaces for the current enrollment population. Although designated pick-up/drop-off areas have not been provided. A portion of the available parking is located on the City of Mountain View property adjacent to the gym. There is also additional parking in the gated-off area on the North side of the campus that is only accessible through the residential neighborhood adjacent to campus.

Due to recent paving work the asphalt paving is in good condition in all areas, except at the parking lot closest to the gym which is in fair condition.

| Recommendation | Category |
|---|---|
| • Replace and repair asphalt paving where it is either a safety hazard, barrier to accessibility, or compromises long term sustainability. | 1 |
| • Provide designated preschool pick-up/drop-offand grade level pick-up/drop-off areas. | 1 |

### 2.3. Hard-Court, Play Equipment Areas and Fields

There is one general hard-court play area, an athletic field for 6-8 grade students and a preschool play equipment area. In order to meet CDE's design guidelines for current enrollment, the hard-court play area should be expanded.

The surfaces include asphalt paving in fair condition and poured rubber in good condition at the preschool play equipment area.

| Recommendation | Category |
|---|---|
| • Replace and repair asphalt paving where it is either a safety hazard, barrier to accessibility, or compromises long term sustainability. | 1 |
| • Expand hard-court play area to meet CDE design guidelines for current enrollment population. | 3 |

### 2.4. Covered Walkways

The roofing system on covered walkways is built-up roofing and is in fair condition.

| Recommendation | Category |
|---|---|
| • Reroof covered walkways | 2 |

## Structural

The subject buildings were evaluated based on achieving a "life safety protection" performance objective. This performance objective represents minimum standards of seismic resistance generally recognized as providing adequate seismic risk protection to building occupants during large locally occurring earthquakes. The deficiencies identified in this report reflect the ASCE 31-03 Tier I results which were confirmed via rough code based analysis and/or ASCE 31-03 Tier II analysis as applicable.

### 1. Administration Building (Unit 1)

Unit 1 is a single story wood framed administration building with an original construction date of 1957 and additions in 1992 and 1995. Based on ASCE Tier I analysis, Unit 1 does not have any deficiencies. No retrofits are required at this time.
**This building receives a subjective rating of 1**[3]

### 2. Classroom Buildings (Units 2, 3, and 4)

Units 2, 3, and 4 are single story wood framed classroom buildings with an original construction date of 1957. Based on ASCE Tier I analysis, Units 2, 3, and 4, have one deficiency. The north and south walls have openings greater than 80% of the length which do not meet the 1.5 to 1 aspect ratio. No retrofits are required at this time.
**These buildings receive a subjective rating of 2**

### 3. Classroom Buildings (Units 5 and 6)

Units 5 and 6 are single story wood framed classroom buildings with an original construction date of 1957 and additions in 1959. Based on the ASCE Tier I analysis, Units 5 and 6 do not have any deficiencies. No retrofits are required at this time.
**This building receives a subjective rating of 1**

### 4. Multi-Use Building (MUR – Unit 7)

Unit 7 is a single story wood framed multi-use building with an original construction date of 1957 and an addition and remodel construction date of 2000. Based on the ASCE Tier I analysis, Unit 7 does not have any deficiencies. No retrofits are required at this time.
**This building receives a subjective rating of 1**

### 5. Classroom Building (Unit 8)

Unit 8 is a single story wood framed classroom building with an original construction date of approximately 1959. No information was found on this building, but through visual inspection we evaluated it to be similar to Unit 3 on the Huff campus. Based on ASCE Tier I analysis, Unit 8 has one deficiency. The north and south walls have openings greater than 80% of the length which do not meet the 1.5 to 1 aspect ratio. No retrofits are required at this time.
**This building receives a subjective rating of 2**

[3] Refer to "Structural" division of the Methodology section for system rating description.

**6. Library Building (Unit 9)**

Unit 9 is a single story wood framed library building with steel moment frames in one direction. The building has an original construction date of 1959, and an addition constructed in 2000. Based on ASCE Tier I analysis, Unit 9 has deficiencies in the lateral force resisting systems at both the low and high roofs.

**This building receives a subjective rating of 3**

| Recommendation | Category |
|---|---|
| • Complete seismic upgrade to provide adequate lateral force resisting systems at the low and high roofs, both in E-W direction. | 1 |

**7. Classroom Buildings (Units 10 and 11)**

Units 10 and 11 are single story wood framed classroom buildings with steel moment frames in one direction. The buildings have an original construction date of 1960. Based on ASCE Tier I analysis, Units 10 and 11 have deficiencies in the load resisting system in the longitudinal direction.

**These buildings receives a subjective rating of 2**

| Recommendation | Category |
|---|---|
| • Complete seismic upgrade in the longitudinal direction. | 1 |

**8. Staff and Foodservice Building (Unit 12)**

Unit 12 is a single story wood framed building with an original construction date of 1960 and an addition of a single story wood and steel framed open outdoor dining structure in 1994. Based on ASCE Tier I analysis, Unit 12 does not have any deficiencies. No retrofits are required at this time.

**This building receives a subjective rating of 1**

**9. Classroom Building (Unit 13)**

Unit 13 is a single story wood and steel framed building with an original construction date of 1994. Based on ASCE Tier I analysis, Unit 12 does not have any deficiencies. No retrofits are required at this time.

**These buildings receives a subjective rating of 1**

## Mechanical

The following reports and comments are based on observations of the general condition of the mechanical systems and noticeable code issues resulting from an on-site visit, review of the existing record drawings, and feedback from Mountain View Whisman School District staff. Each existing HVAC system should be reviewed, tested, and upgraded to correct the possible problems due to faulty instruments, controls, and other installation issues.

### 1. HVAC Equipment

The site was modernized in 2000 and the mechanical systems (HVAC equipment, ductwork, air distribution and controls) were replaced at that time, with the exception of the Gymnasium which was constructed in 1985. The typical life expectancy of HVAC equipment is fifteen years, if maintained per manufacturer, operation, and maintenance guidelines. The HVAC equipment has standard efficiency but does not meet current Title 24 standards.

The existing HVAC equipment consists of three rooftop air-conditioning package units serving the administration building. There are three rooftop air-conditioning package units serving the multi-use building. There are two rooftop air-conditioning package units serving the library. The classrooms are served by a split system: gas furnace and rooftop condensing units with a total of thirty-two sets of split systems. For the IDF rooms there is no air conditioning and no ventilation. Each modular building is served by a self-contained heat pump with a total of seven heat pumps. Each restroom is served by an exhaust fan, with a total of nineteen exhaust fans. The kitchen area is served by one exhaust hood. The existing ductwork and air distribution appear to be in original condition. The ductwork and registers are in the soffit that does not span the entire wall, and two registers are too close together.

The existing Gym HVAC equipment consists of six rooftop heating ventilation units that serve the rest of the gymnasium, including lobby, PE activity areas, etc. Each restroom is served by rooftop heating ventilation Units, which serve other areas. These restrooms should be served by separate mechanical ventilation and air conditioning units. The existing ductwork and air distribution appears to be in fair condition

| Recommendation | Category |
|---|---|
| • At the end of life expectancy replace all HVAC units with high efficiency units to meet or exceed the current Title 24 requirements. high efficiency units will use less energy and save on energy costs; | **2** |
| • For the IDF rooms, provide a split system: cooling-only fan coil and roof mounted condensing unit, which will prevent overheating of telecommunication equipment. | **2** |
| • When replacing HVAC equipment, provide additional registers to insure proper air distribution. | **2** |

| | |
|---|---|
| • Replace HVAC equipment with new that will qualify for Green Building Certification, either LEED or CHPS. | **3** |

**2. Energy Management System (EMS)**

The existing Energy Management System (EMS) is manufactured by Alerton Technology. The existing EMS is Digital Direct Control, Windows-based with dial-up modem. The existing EMS is slow and hard to maintain because it fails frequently. Additionally, the modular buildings are not linked to the existing EMS system.

| **Recommendation** | **Category** |
|---|---|
| • Replace existing Energy Management System (EMS) with new EMS, which is BACNet compatible with internet access through District network, easy to use, and password protected. The new EMS will be faster, easier to maintain, and meet current technology changes. | **2** |
| • Modular buildings should be connected to the Energy Management System (EMS). | **2** |

## Plumbing and Site Utilities

This report and comments to follow are based on observations of the general condition of the plumbing systems and site utilities and noticeable code issues resulting from an on-site visit, review of the existing record drawings, and feedback from Mountain View Whisman School District staff.

### 1. Plumbing System

The plumbing fixtures in the buildings were replaced in the 2000 modernization project with the exception of the Gymasium which was constructed in 1985. Plumbing equipment, such as water heaters, are in good condition. Typical life expectancy of plumbing equipment can be between 5-10 years, depending on type of equipment. Plumbing fixtures such as urinals and water closets are in good condition but do not meet current water conservation standards.

| Recommendation | Category |
|---|---|
| • Replace plumbing equipment at the end of life expectancy. | 2 |
| • Replace existing plumbing fixtures, i.e., faucets, urinals, water closets, with high efficiency plumbing fixtures that meet green building certification like LEED or CHPS to reduce water consumption (i.e., install waterless urinals and low-consumption flush toilets) | 3 |

### 2. Gas

The site is supplied with one gas meter with earthquake-actuated gas shutoff valve and is located at the Southeast side of classroom wing Unit 7. The gas meter capacity is 11000 CFH with 0.25 psi gas pressure supply to each building. The Gym building is supplied with a gas meter, without an earthquake-actuated gas shutoff valve, is located at the north of the building. The existing site underground gas main and distribution to each building were replaced in the 2000 modernization project. Gas piping has a typical life expectancy of 25-30 years. The exterior steel gas piping runs underground and branches-off to each building with a riser at the exterior wall and a shut-off valve below grade. The interior steel gas piping is inside the building, below the roof and connects to the mechanical equipment in the building or on the roof.

| Recommendation | Category |
|---|---|
| • Provide an earthquake-actuated gas shutoff valve for the gas system to automatically shut off gas in the event of a seismic disturbance for the Graham Gym gas meter. | 1 |

### 3. Domestic Water

The site and building domestic water systems were replaced in the 2000 modernization project with the exception of the Gym building. The site is supplied with a 4 inch water meter that is located in front and west of the campus near Castro Street.

The domestic water piping has a typical life expectancy of 25-30 years. The exterior copper domestic water piping runs underground and branches-off to each building with a riser at the exterior wall and a shut-off valve below grade. The interior copper domestic water piping is supported below the roof and connected to each plumbing fixture in the building. The domestic water system on this site is in good condition.

| Recommendation | Category |
|---|---|
| • The site domestic water system to the gymnasium is to be replaced together with the sanitary sewer system. | 2 |

### 4. Sanitary Sewer

The site sanitary sewer system was not replaced in the modernization project. Typically, sanitary sewer systems have a life expectancy of 30-40 years depending on the piping material installed. In the 1960s and 1970s, sanitary main trunk lines were typically 6-inch vitrified clay pipe (VCP). Clay pipe has long been used for sanitary sewer mains and is still considered a competent product for this purpose. Depending on location, internal velocities, and adequate joints, VCP can have a life expectancy up to 40 years.

| Recommendation | Category |
|---|---|
| • For the sanitary sewer system, either perform a video survey to assess the type of piping material and the percentage to be replaced or replace all piping. Apply high velocity water jetters to the system prior to a video survey. | 2 |

### 5. Storm Drainage

Typically, storm drainage systems have a life expectancy of 30-40 years depending on the piping material installed. Typical storm drainage piping materials include reinforced concrete pipe (RCP), corrugated metal pipe (CMP), polyvinyl chloride pipe (PVC), and high-density polyethylene pipe (HDPE).

| Recommendation | Category |
|---|---|
| • For the storm drainage system, either perform a video survey to assess the type of piping material and the percentage to be replaced or replace all piping. Apply high velocity water jetters to the system prior to a video survey. | 2 |

## Electrical

This report and comments to follow are based on observations of the general condition of the electrical systems and site utilities and noticeable code issue resulting from an on-site visit, review of the existing record drawings, and feedback from Mountain View Whisman School District staff.

### 1. Power

For the Graham Middle School, a 1600A, 208/120V, 3 phase, 4 wire switchboard located outside of the Unit 3 classroom building provides power to the campus. The switchboard was installed in 2003 and is in good condition. According to PG&E records, the current peak usage on the system is about 600 amps, and there is a spare capacity of 700 amps for future usage.
The majority of the power distribution conduits were installed underground with a few power and low voltage system conduits installed on the roof or above the covered walkway. Most of the areas had adequate power outlets for the current use. There were four (4) 20amp circuits connected to each classroom. These were not used to the maximum capacity. All distribution and branch circuit panels are in good condition with spare capacity and breaker spaces for future needs. Some of the electrical rooms were used for storage and violated the code requirement of 36" clearance in front of the panel board. Some of the power outlets in the modular buildings were not usable and require repair work.

For the Graham Gym, a 600A, 480/277V, 3 phase, 4 wire switchboard located in the electrical room serves power to the entire facility. The switchboard was installed in 1985 and is in good condition. All branch circuit panels are in good condition but with limited breaker spaces for future need. Majority of the power and low voltage system distribution conduits were installed underground. Most of the areas had adequate power outlets for the space used. All distribution and branch circuit panels are in working condition but with limited capacity and breaker spaces for future need.

| Recommendation | Category |
|---|---|
| • Maintain code required clearance in front of all electrical panel boards and equipment. | 1 |
| • Repair disconnected power outlets at modular buildings for proper function. | 1 |
| • Remove electrical distribution conduits from roof to under canopy or underground to avoid re-roofing problems. | 3 |
| • Replace existing branch circuit panelboards with new to provide additional breaker spaces for Graham Gym. | 3 |

## 2. Lighting

The majority of the light fixtures are of a fluorescent source with electronic ballasts and T8 lamps. The lighting level is adequate for the task performed in each area and meets the requirements of current Title 24 efficiency standards. Interior fixtures are controlled by ceiling or wall mounted occupancy sensors with override switches. Exterior light fixtures are controlled by photocells and time clocks via low voltage lighting control panels. The lenses of many exterior canopy lights have been browned out and require replacement. The parking lot does not have adequate lighting for pedestrian safety.

| Recommendation | Category |
|---|---|
| • Replace existing exterior light fixtures and add additional fixtures in the parking lot to improve campus safety. | 1 |
| • Connect exterior lighting to EMS system for energy saving and ease of campus control. | 2 |
| • Replace existing lighting fixtures with energy efficient lamps and ballasts of current technology to save operating cost. | 3 |

## 3. Fire Alarm

The middle school is provided with a manual/automatic addressable fire alarm system with pull stations, smoke detectors, and notification devices. The existing FCI 7200 panel located in the administration office is in working condition but it is obsolete with no current state fire marshal listing. The visual and audio notification device coverage on the campus does not comply with current code.

The Gym is provided with a manual fire alarm system with pull stations and notification devices. The existing FCI panel located in the electrical room is in working condition but it's obsolete and does have capacity for a fully automatic system conversion per current code requirement.

| Recommendation | Category |
|---|---|
| Replace existing fire alarm system with new network based addressable fire alarm system with adequate notification devices throughout the campus to meet the current code. | 1 |

## 4. Paging/Clock

For Graham Middle School, existing Bogen PA/Clock system located in the electrical room in Unit 1 Administration building provides campus paging announcement, master clock and bell schedule. The campus has good announcement coverage and the system is in good condition.

## 5. Security

Sonitrol Alarm provides a working, adequate security monitoring of the campus through audio motion sensor and door contacts. Sonitrol Alarm provides third-party monitoring and is hired by the District. AEC Company provides security monitoring of the Graham Gym through motion sensor and door contacts under City of Mountain View contract.

## Technology

These recommendations are based on the information obtained during the observation of the general condition of the schools and feedback from staff at Mountain View Whisman School District.

### 1. Structure Cabling

The copper cabling in Graham Middle School is CAT5 and Cat5E and was installed over nine years ago. The copper cabling in Gym is CAT5e and was installed over six years ago. Station cabling is installed in plastic wiremold on the walls, and station jacks are a mix of blocks and different style faceplates. Cable labeling is a mix of styles, and some cables are not labeled. There are six strands of 62.5/125 multi-mode fiber from each IDF to the MDF. In addition, there are several IDFs that transverse other IDFs to the MDF. There are RG-11s from the MDF to each IDF and RG-6 to each end station in the building for broadband distribution. Overall, the structure cabling is in fair condition.

| Recommendation | Category |
|---|---|
| • Replace cabling to bring it up to current industry standards, in order to support the different applications (EMS, Video Safety, VoIP, web applications etc.). Recommendation is to upgrade the horizontal cabling to Category 6. | **3** |
| • Demolish and remove all abandoned cables. | **3** |
| • Upgrade the fiber backbone to the latest industry standards. | **3** |

### 2. IDF/MDF Environment

The MDF is located inside of a storage/supply room of the administration building. IDFs are typically located in the classroom, boiler/mechanical/electrical, or storage room and are dusty and dirty. Most locations are not easily accessible, and some locations do not get filtered air. Many of the IDFs are placed in a small and cramped Nema electrical box which is not designed to hold network equipment, and some are mounted on a wall in the warehouse. This will cause equipment fans to fail and device shut-down due to heat or the complete failure of a network switch. The failure of a network will cause that entire building to go off-line for an extended period until the device is replaced Some IDFs are not equipped with a UPS, grounding, and proper horizontal wire manager, and the wire managers are not used effectively, creating a twisted and unmanageable wire system.

| Recommendation | Category |
|---|---|
| • Implement a solution that will safeguard the equipment located in the IDFs. | 2 |
| • Provide a clean, air-conditioned, and secure environment for network infrastructure, or relocate the IDF. | 2 |
| • Provide appropriate electrical, grounding, and UPS solutions in each IDF. | 2 |

### 3. Video Safety System

The District does not have a video safety system in place for this school.

| Recommendation | Category |
|---|---|
| • Implement a network based video safety solution that will monitor the exterior and problem areas of the campus. | 3 |

### 4. Data Network

The school is using old and out of warranty 3Com switches, Cisco switches and other mini Ethernet switches. The vents for the fans on the switches are clogged with dust and debris, therefore reducing the life of each switch. With the shift toward web-based applications, there is a need for increased Internet bandwidth. To provide wireless connectivity, some IDFs are equipped with a buffalo wireless access point (AP).

| Recommendation | Category |
|---|---|
| • Replace the current switching solution with the District's new switching standard (HP ProCurve or equal) to support ig connection to the desktop. | 3 |
| • Replace the current wireless solution with an enterprise solution that allows the school to efficiently deploy, secure, and centrally manage the wireless LAN and meets current industry standard such as 802.11n. | 3 |

**5. Video Distribution System**

Most classrooms are equipped with coaxial cable for cable services. It seems that most classrooms are not using the service. Classrooms are typically equipped with a wall mounted TV with a VCR.

| Recommendation | Category |
|---|---|
| • Upgrade the current (coaxial cable) video distribution system to a network based system utilizing the newly installed cabling standard. With a network based solution, the classroom can have access to educational video streaming services from the Internet to enhance the learning experience of student. | 3 |

**6. Phone System**

The phone system, sipXecs IP PBX, was installed during the summer of 2009. Phones are Polycom 321/331 and 450s.

**7. Smart Classroom**

Currently there is minimal integration of technology into the classroom. Some of the classrooms have components (projector, TV, VCR/DVD player) of a smart classroom and are currently using them. There is no smart classroom for the Graham Gym.

| Recommendation | Category |
|---|---|
| • Develop a plan to implement the latest instructional technology in the classrooms to meet educational goals. | 3 |

# *District Office*

**General Information**

| | |
|---|---|
| Address: | 750-A San Pierre Way<br>Mountain View, CA 94043 |
| Telephone: | 650.526.3500 |

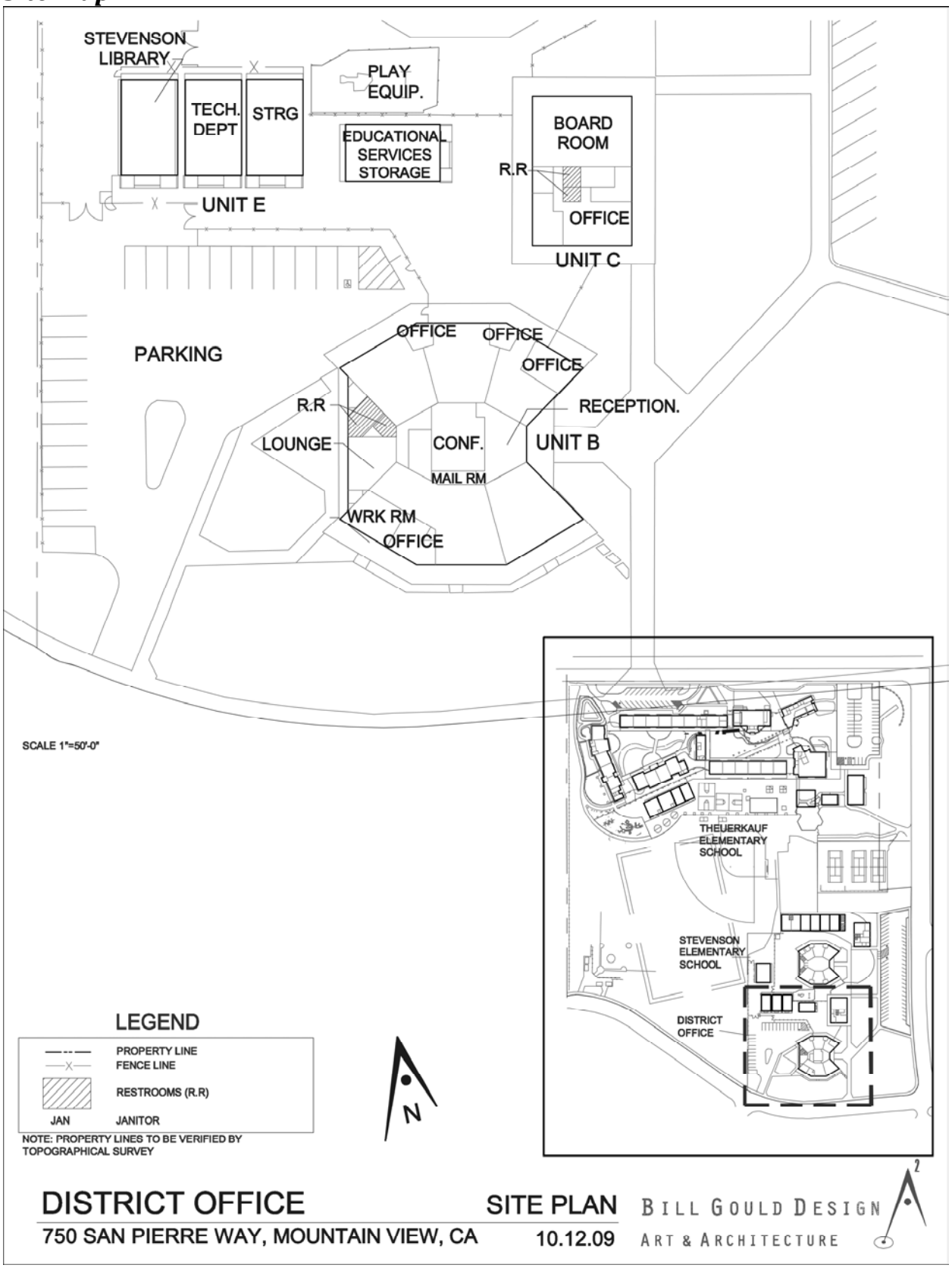
**Site Information:**

| | |
|---|---|
| Gross Acreage: | 16.96 Acres<br>(*Property includes Stevenson and Theuerkauf E.S)* |
| Net Useable Acreage: | 2.28 Acres<br>*(Area designated to the District Office)* |

**Building Information:**

| | |
|---|---|
| Original Construction: | 1964 |
| Additions: | 1986 - 2004 |
| Gross Building Area: | 13,865 sq. ft. |
| Site built Construction: | 10,025 sq. ft. |
| Modular Construction : | 3,840 sq. ft. |

***Site Map -***


STEVENSON LIBRARY
TECH. DEPT
STRG
PLAY EQUIP.
EDUCATIONAL SERVICES STORAGE
UNIT E
BOARD ROOM
R.R
OFFICE
UNIT C
PARKING
OFFICE
OFFICE
OFFICE
R.R
RECEPTION.
LOUNGE
CONF.
UNIT B
MAIL RM
WRK RM
OFFICE
SCALE 1"=50'-0"
THEUERKAUF ELEMENTARY SCHOOL
STEVENSON ELEMENTARY SCHOOL
DISTRICT OFFICE
LEGEND
PROPERTY LINE
FENCE LINE
RESTROOMS (R.R)
JAN
JANITOR
NOTE: PROPERTY LINES TO BE VERIFIED BY TOPOGRAPHICAL SURVEY
N
DISTRICT OFFICE
SITE PLAN
750 SAN PIERRE WAY, MOUNTAIN VIEW, CA
10.12.09
BILL GOULD DESIGN
ART & ARCHITECTURE

## *Introduction*

Mountain View Whisman School District Office, Stevenson Elementary and Theuerkauf Elementary Schools are all located on the same property; the overall parcel is 16.96 acres.

The District Office buildings include two site-built buildings built in 1964 and four modular buildings added in 2004; all housing offices.

## *Planning Process*

The assessment process included the review of drawings, site visits and field verification, meetings with district administrative staff, and, finally, evaluation of collected data. Following the assessment process, recommendations were developed to improve the conditions and suitability of each facility. These recommendations were classified based on categories described in the “Basis of Assessment” in the Methodology section of this report. The existing conditions were evaluated utilizing a Good, Fair, Poor rating system; also described in the Methodology section.

The information provided is based on District policies and the most recent codes and guidelines in effect at the time of this report. As these factors change, recommendations will be revised and reflected in the master plan. The Conditions and Needs Analysis Report herein will serve as a working tool guiding the District’s future Facilities Improvement Plan.

## *Summary*

While potential deficiencies were identified within this study, in no instance were they of a serious enough nature to warrant immediate action. Individual scopes of work and their projected costs will be developed as part of the upcoming SFIP to be implemented in future modernization projects.

## *Assessment Summary*

Existing facilities were evaluated from functional, code compliance, architectural and engineering perspectives. The summary of the findings along with proposed recommendations for each division are provided herein.

# Architectural

### 1. Buildings

### 1.1. District Office

The District office consists of two site-built and four modular buildings housing a board room, offices, conference rooms, work room, lounge, and storages. Based on the current use of the facility, there seems to be a need for flexible spaces to be used as offices or for meetings. With the exception of a few offices, most of the staff are housed in cubicles which do not offer the required privacy for the type of work performed. One of the modular buildings is currently utilized as Stevenson Elementary School's library. There are also four restrooms of which three are accessible. Restrooms are generally code compliant; although sinks in the staff lounge are non-compliant.

- **Site-Built Buildings (Unit B)**
  The site-built buildings were originally constructed in 1964 and modernized in 1986.

  The roofing system on this building is built-up roofing with wood soffits, and is in fair condition. The exposed wood beams are in poor condition and the exposed steel beams are in fair condition. The exterior finishes including wood panel siding, stucco, and doors, all of which are generally in fair condition. The aluminum single-glazed windows with louvers, both fixed and operable (single-hung, hoppers), are in poor condition.

  Interior finishes include suspended acoustical tile ceiling which is in good condition, gypsum board walls which are in fair condition and wall coverings, which are in good condition. The carpet flooring is generally in fair condition, the sheet vinyl flooring in the lounge is in poor condition and the wood strip flooring in the reception area is in fair condition. The restroom finishes including the FRP wall covering and the sheet vinyl flooring are in fair condition, and the toilet partitions are in good condition. The doors are in fair condition. However, the casework in the copy room is in poor condition due to the age of the wood, while the casework in the lounge is in fair condition, except that it has old plastic laminate. Some of the ductwork is exposed and the wiremold is surface mounted.

  Accessories such as the mini-blinds are generally in fair condition. The operable partitions in the conference room are in fair condition.

- **Site-Built Buildings (Unit C)**
  The site-built buildings were originally constructed in 1964 and modernized in 1986.

The roofing system on this building is built-up roofing with wood soffits, and is in fair condition. The exterior finishes including wood panel siding, stucco, and doors, are generally in fair condition. The aluminum single-glazed windows, both fixed and operable (hoppers), are in poor condition.

Interior finishes include, glue up acoustical tile ceiling which is in fair condition. The gypsum board walls and carpet flooring are both in good condition, and the doors are in fair condition. The restroom finishes including the FRP wall covering and the sheet vinyl flooring are in fair condition, and the toilet partitions are in good condition. The casework is finished with mismatching plastic laminate, though the wood is in generally good condition. Some of the ductwork is exposed and the wiremold is surface mounted.

Accessories such as a large projection screen, whiteboards, chalk boards and screens as well as the vertical blinds are generally in good condition.

- **Modular Buildings (Unit E)**
  The modular buildings at this site were added between 1998 and 2004.

  The exterior finishes include standing seam metal roofing, plywood soffits, T-111 siding, aluminum single-glazed sliding windows, and hollow metal doors, all of which are in fair condition. The metal ramps are in good condition.

  The interior finishes include suspended ceiling with acoustical tiles, which is in poor condition. The wall covering is in fair condition and the VCT flooring is in poor condition. The casework is in fair condition.

  Accessories such as whiteboards, chalk boards and screens are generally in good condition, while the mini-blinds are in fair condition.

| Recommendation | Category[1] |
|---|---|
| • Perform a detailed Accessibility Survey to identify and address all barriers to accessibility within the building | 1 |
| • Replace and/or upgrade interior and exterior finishes in fair or poor condition. | 2 |
| • Replace District office buildings with one building housing all administrative and support spaces. Building should accommodate future staff population and their needs. | 3 |

## 2. General Site

### 2.1. Site Accessibility

The path-of-travel is accessible. The concrete paving at walkways is generally in fair condition and the asphalt (A.C.) paving is in fair to poor condition.

[1] Refer to "Basis of Assessment" in the Methodology section for category description.

| Recommendation | Category |
|---|---|
| • Replace and repair asphalt (A.C.)/ concrete paving where it is either a safety hazard, a barrier to accessibility, or compromises long term sustainability. | 1 |

### 2.2. Parking

There are 20 parking spaces in the west parking lot, of which one is accessible. Additionally there are 50 parking spaces in the east parking lot, which is shared with Stevenson Elementary School. The facility does not have an adequate number of dedicated staff parking spaces for the current staff population of 31.

| Recommendation | Category |
|---|---|
| • Provide additional parking spaces to meet current staff population needs. | 3 |

### 2.3. Covered Walkways

Covered walkways have not been provided at this site. Due to the layout and current utilization of the buildings they should be provided.

| Recommendation | Category |
|---|---|
| • Add covered walkways from main pod building to other office locations. | 3 |

## Structural

The subject buildings were evaluated based on achieving a "life safety protection" performance objective. This performance objective represents minimum standards of seismic resistance generally recognized as providing adequate seismic risk protection to building occupants during large locally occurring earthquakes. The deficiencies identified in this report reflect the ASCE 31-03 Tier I results which were confirmed via rough code based analysis and/or ASCE 31-03 Tier II analysis as applicable.

### 1. District Office Building (Unit B)

Unit B is a single story wood framed District office building with an original construction date of 1964. Based on the ASCE Tier I analysis, Unit B has one deficiency. The exterior walls in the East-West direction do not meet the shear stress check.

**This building receives a subjective rating of 3[2]**

| Recommendation | Category |
|---|---|
| • Provide plywood sheathing with nailing at 3" o.c. to the inside of shear walls in the East-West direction. | 1 |

### 2. Board Room Building (Unit C)

Unit C is a single story wood framed building with an original construction date of 1964. Based on the ASCE Tier I analysis, Unit C has one deficiency. The exterior walls in the North-West direction do not meet the shear stress check.

**This building receives a subjective rating of 3**

| Recommendation | Category |
|---|---|
| • Provide plywood sheathing with nailing at 3" o.c. to the inside of shear walls in the North-West direction | 1 |

[2] Refer to "Structural" section of the Methodology section for system rating description.

## Mechanical

The following reports and comments are based on observations of the general condition of the mechanical systems and noticeable code issues resulting from an on-site visit, review of the existing record drawings, and feedback from Mountain View Whisman School District staff. Each existing HVAC system should be reviewed, tested, and upgraded to correct the possible problems due to faulty instruments, controls, and other installation issues.

### 1. HVAC Equipment

The site was originally constructed in 1964. The HVAC equipment (ductwork, air distribution and controls) is forty-five years old. The typical life expectancy of HVAC Equipment is fifteen years, if maintained per manufacturer, operation and maintenance guidelines. The HVAC equipment has standard efficiency but does not meet current Title 24 standards.

The existing HVAC equipment consists of one self contained roof top package heat pump unit serving the lobby, conference room and lounge. The offices, conference rooms, and copy room are served by self contained wall mounted heat pump units with a total of six heat pump units. There is one main exhaust fan ventilating the lobby, lounge, conference rooms, and copy room. The IDF room is served by a split system - wall mounted fan coil and roof mounted condensing unit. There are two restrooms, each are served by an exhaust fan. The existing ductwork and air distribution appears in the original condition. Ductwork and registers are in the ceiling. Listed below are the secondary District office building and modular buildings existing HVAC Systems. There is a floor mounted package heat pump unit serving the main conference room. There are three offices that are served by two self contained window mounted heat pumps. There are two restrooms; each restroom is served by an exhaust fan. There is an IDF room that has no air conditioning or ventilation. As regards the three modular buildings, each modular building is served by a wall mounted self contained heat pump.

| Recommendation | Category |
|---|---|
| • At the end of life expectancy, replace all HVAC units with high efficiency units to meet or exceed the current Title 24 requirements. High efficiency units will use less energy and save on energy costs. | **2** |
| • For the IDF Rooms, provide split system (cooling only fan coil and roof mounted condensing unit) which will prevent overheating of the telecommunication equipment. | **2** |
| • Due to leakage, dust and age, replace all existing ductwork and air distribution. | **2** |
| • Replace HVAC equipment with new that will qualify for green building certification, either LEED or CHPS. | **3** |

**2. Energy Management System (EMS)**

The existing Energy Management System (EMS) is manufactured by Alerton Technology. The existing EMS is Digital Direct Control, Windows Operating System based with a dial-up modem. The existing EMS is slow and hard to maintain because it fails frequently. Additionally, modular buildings are not currently tied to the EMS system

| Recommendation | Category |
|---|---|
| • Replace existing Energy Management System (EMS) with new EMS, which is BACNet compatible with internet access through District network, ease of use and password protected. The new EMS will be faster, easier to maintain and meet current technology changes. | **2** |
| • Modular buildings should be connected to the Energy Management System (EMS). | **2** |

## Plumbing and Site Utilities

This report and comments to follow are based on observations of the general condition of the plumbing systems and site utilities and noticeable code issues resulting from an on-site visit, review of the existing record drawings, and feedback from Mountain View Whisman School District staff.

### 1. Plumbing System

Hose bibs at exterior walls of the buildings do not have vacuum breaker devices. Plumbing equipment, such as water heaters, are in good condition. Typical life expectancy of plumbing equipment can be between 5-10 years, depending on type of equipment. Plumbing fixtures such as urinals and water closets are in good condition but do not meet current water conservation standards.

| Recommendation | Category |
|---|---|
| • Provide vacuum breaker devices for all exterior hose bibs to prevent backflow into the potable water system. | 1 |
| • Replace plumbing equipment at the end of its life expectancy. | 2 |
| • Replace existing plumbing fixtures, i.e., faucets, urinals, water closets, with high efficiency plumbing fixtures that meet green building certification standards like LEED or CHPS to reduce water consumption (i.e., install waterless urinals and low-consumption flush toilets). | 3 |

### 2. Gas

There is not a gas system on this site.

### 3. Domestic Water

The site and building domestic water system were installed in 1964 and have not been replaced. The site is supplied with a 2" water meter. The domestic water piping has a typical life expectancy of 25-30 years. Typical domestic underground mains constructed in the last 50 years were constructed of 4 inch diameter asbestos cement (AC) pipe. The use of AC pipe in potable water supply systems was common during the late 1950s up until the 1970s. Although no longer manufactured, a substantial amount of AC pipe remains in service in North America and Europe.

The pipe materials utilized on these smaller underground lines vary from solvent-weld polyvinyl chloride pipe (PVC) to ductile iron pipe (DIP) with the likelihood of limited amounts of copper and/or ferrous metal pipe used at or in the individual building services.

| Recommendation | Category |
|---|---|
| • The site domestic water system is to be replaced together with the sanitary sewer system. | **2** |

**4. Sanitary Sewer**

Typically sanitary sewer systems have a life expectancy of 30-40 years depending on the piping material installed. In 1960s and 1970s, sanitary main trunk lines were typically 6-inch vitrified clay pipe (VCP). Clay pipe has long been used for sanitary sewer mains and is still considered a competent product for this purpose. Depending on location, internal velocities, and adequate joints, VCP can have a life expectancy of up to 40-years.

| Recommendation | Category |
|---|---|
| • For the sanitary sewer system either perform a video survey to assess the type of piping material and the percentage to be replaced or replace all piping. Apply high velocity water jetters to the system prior to a video survey. | **2** |

**5. Storm Drainage**.

Typically storm drainage systems have a life expectancy of 30-40 years depending on the piping material installed. Typical storm drainage piping materials include reinforced concrete pipe (RCP), corrugated metal pipe (CMP), polyvinyl chloride pipe (PVC), and high-density polyethylene pipe (HDPE).

| Recommendation | Category |
|---|---|
| • For storm drainage system, either perform a video survey to assess the type of piping material and the percentage to be replaced or replace all piping. Apply high velocity water jetters to the system prior to a video survey. | **2** |

## Electrical

This report and comments to follow are based on observations of the general condition of the electrical systems and site utilities and noticeable code issue resulting from an on-site visit, review of the existing record drawings, and feedback from Mountain View Whisman School District staff.

### 1. Power

A 1200A, 208/120V, 3 phase, 4 wire switchboard located in the electrical room provides power to the district office and also the Stevenson campus. The switchboard was installed in 1964. The main breaker is a 1200A with 800A fuse. There is a second meter of a 400A service feeding the adjacent Stevenson school classroom buildings. According to PG&E records, the service feeder to the main switchboard is only 400A and the system is at its maximum usage with no spare capacity for future modernization or addition. All distribution and branch circuit panels are original. They are in working condition but with limited spare capacity and breaker spaces for future connection. The majority of the power distribution conduits were installed underground. Some low voltage system aerial cables were installed on the roof and across the buildings. Most of the interior areas have adequate power outlets for the current use. Some of the electrical panels do not have the code required clearance of 36" in front of the panel. Some of the power outlets in the modular buildings are not functioning and require repair work.

| Recommendation | Category |
|---|---|
| • Maintain code required clearance in front of all electrical panel boards and equipment. | 1 |
| • Repair disconnected power outlets at modular buildings for proper function. | 1 |
| • Replace existing branch circuitry panels with new to provide more capacity and breaker spaces. | 2 |

### 2. Lighting

The majority of the light fixtures are of a fluorescent source with electronic ballast and T8 lamps. The lighting levels are adequate for the tasks performed in each area and meet the requirements of current Title 24 efficiency standards. Interior fixtures are controlled by ceiling or wall mounted occupancy sensors with override switches. Exterior light fixtures are controlled by a photocell and time clock via a low voltage lighting control panel. The parking lot does not have adequate lighting for pedestrian safety.

| Recommendation | Category |
|---|---|
| • Replace existing exterior light fixtures and add additional fixtures in the parking lot to improve campus safety. | 1 |
| • Connect exterior lighting to EMS system for energy saving and ease of campus control. | 2 |
| • Replace existing light fixtures with energy efficient lamps and ballasts of current technology to save operating cost. | 3 |

### 3. Fire Alarm

The District is provided with a manual/automatic addressable fire alarm system with pull stations, smoke detectors, and notification devices. The existing MS 9200 panel located in the electrical room at the Board room building is in working condition. However, it does not have the capacity for conversion to a fully automatic system with additional smoke detectors and notification devices per current code.

| Recommendation | Category |
|---|---|
| • Replace existing fire alarm system with new network based addressable fire alarm system with adequate notification devices throughout the campus to meet the current code. | 1 |

### 4. Paging/Clock

There is no paging/clock system on site. Paging/clock system is not required for this site.

### 5. Security

Bay Alarm provides security monitoring of the campus through audio motion sensors and door contacts.

| Recommendation | Category |
|---|---|
| • Replace existing system with Sonitrol audio motion sensors and door contacts to be monitored by Sonitrol as a district standard. | 3 |

## Technology

These recommendations are based on the information obtained during the observation of the general condition of the schools and feedback from staff at Mountain View Whisman School District.

### 1. Structure Cabling

The copper cabling in this site is CAT5 and was installed over ten years ago. Station cabling is installed in plastic wiremold on the walls and station jacks are a mix of blocks and different style faceplates. Cable labeling is a mix of styles and some have no labeling or are missing labels. The District Office is a hub for the following schools: Theuerkauf, Crittenden, Monta Loma, and Landels. The connections to Landels contain traffic from five other schools. Feedback from the District shows that they have or are working on a cabling standard. Overall, the structural cabling is in fair condition.

| Recommendation | Category |
|---|---|
| • Replace cabling to bring it up to current industry standards, in order to support the different applications (EMS, Video Safety, VoIP, web applications etc.). Recommendation is to upgrade the horizontal cabling to Category 6. | **3** |
| • Demolish and remove all abandoned cables. | **3** |
| • Upgrade the fiber backbone to the latest industry standards. | **3** |

### 2. IDF/MDF Environment

The MDF is located in the main building and consist of several 19" two posts racks and four posts racks.

| Recommendation | Category |
|---|---|
| • Secure an area inside one of the modular buildings and install an IDF. Implement a solution that will safeguard the equipment located in the IDFs. | **2** |
| • Provide a clean, air conditioned and secure environment for network infrastructure or relocate the IDF. | **2** |
| • Provide appropriate electrical, grounding, and UPS solutions in each IDF. | **2** |

### 3. Video Safety System

The District doesn't have a Video Safety System in place for the District Office.

**4. Data network**

All the switches for the District Office are HP ProCurve with the capability to support speed of 10/100. The cabling infrastructure cannot support gigabit connection; therefore 10/100 switches were installed. With the shift toward web-based applications, there is a need for increased Internet bandwidth. To provide wireless connectivity, some IDFs are equipped with a buffalo wireless access point (AP).

| Recommendation | Category |
|---|---|
| • Replace the current switching solution with the District's new switching standard (HP ProCurve or equal) to support gigabit connection to the desktop. | **3** |
| • Replace the current wireless solution with an enterprise solution that allows the school to efficiently deploy, secure, and centrally manage the wireless LAN and meets current industry standard such as 802.11n. | **3** |

**5. Video Distribution System**

There is no video distribution system for this site.

**6. Phone System**

The phone system, sipXecs IP PBX, was installed during the summer of 2009. Phones are Polycom 321/331 and 450s.

**7. Smart Classroom.**

There are no smart classrooms on this site.

Currently there is minimal integration of technology in these spaces. Some of the areas have components such as projectors, TVs, and VCR/DVD players.

| Recommendation | Category |
|---|---|
| • Develop a plan to implement the latest instructional technology in the offices to meet educational goals. | **3** |

# *Corporation Yard- Graham*

**General Information**

| | |
|---|---|
| Address: | 1175 Castro Street<br>Mountain View, CA 94040 |
| Telephone: | |

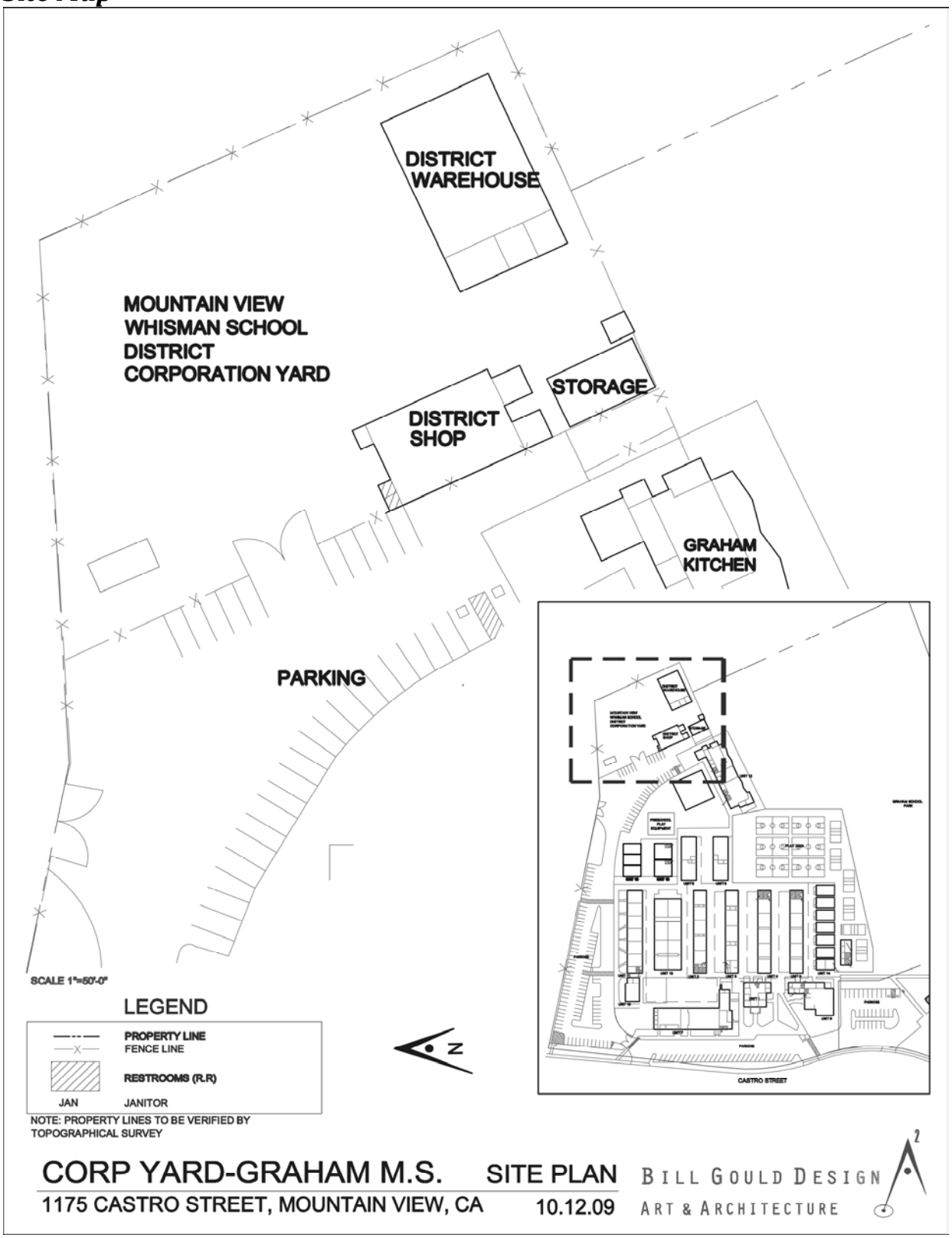
**Site Information:**

| | |
|---|---|
| Gross Acreage: | 16.87 Acres<br>*(Property includes Graham M.S)* |
| Net Useable Acreage: | 0.93 Acres<br>(*Assumed area designated*) |

**Building Information:**

| | |
|---|---|
| Original Construction: | unknown |
| Additions: | unknown – late 1990s |
| Gross Building Area: | 7,550 sq. ft. |
| Site-built Construction: | 7,550 sq. ft. |
| Modular Construction : | 0 sq. ft. |

## *Site Map*


DISTRICT WAREHOUSE
MOUNTAIN VIEW WHISMAN SCHOOL DISTRICT CORPORATION YARD
STORAGE
DISTRICT SHOP
GRAHAM KITCHEN
PARKING
SCALE 1"=50'-0"
LEGEND
PROPERTY LINE
FENCE LINE
RESTROOMS (R.R)
JAN JANITOR
NOTE: PROPERTY LINES TO BE VERIFIED BY TOPOGRAPHICAL SURVEY
N
CASTRO STREET
CORP YARD-GRAHAM M.S. SITE PLAN
1175 CASTRO STREET, MOUNTAIN VIEW, CA 10.12.09
BILL GOULD DESIGN
ART & ARCHITECTURE

## *Introduction*

One of Mountain View Whisman School District corporation yards is located at Graham Middle School's campus.

The Graham Corporation Yard consists of a warehouse, a shop building and a storage building with an adjacent flammable material shed.

## *Planning Process*

The assessment process included the review of drawings, site visits and field verification, meetings with District facilities staff, and, finally, evaluation of collected data. Following the assessment process, recommendations were developed to improve the conditions and suitability of each facility. These recommendations were classified based on categories described in "Basis of Assessment" in the Methodology section of this report The existing conditions were evaluated utilizing a Good, Fair, Poor rating system also described in the Methodology section.

The Information provided is based on District policies and most recent codes and guidelines in effect at the time of this report As these factors change, recommendations will be revised and reflected in the SFIP. The Conditions and Needs Analysis Report herein will serve as a working tool guiding the District's future Facilities Improvement Plan.

## *Summary*

While potential deficiencies were identified within this study, in no instance were they of a serious enough nature to warrant immediate action. Individual scopes of work and their projected costs will be developed as part of the upcoming SFIP to be implemented in future modernization projects.

## *Assessment Summary*

Existing facilities were evaluated from functional, code compliance, architectural and engineering. Perspectives. Summary of the findings along with proposed recommendations of each division are provided herein.

## Architectural

### 1. Buildings

The Graham Corporation Yard has a warehouse constructed in the late 1990s and a shop and storage building with unknown construction dates.

The buildings include five office spaces, a warehouse, a shop, garden storage area, a staff lounge, two restrooms, and a shed for flammable materials.

The corporation yard buildings do not comply with current accessibility code requirements due to high thresholds, non-compliant restrooms, casework, and sinks. There are no drinking fountains, though water coolers have been provided in some areas.

The roofing system on these buildings includes built up roofing which is in good condition and corrugated metal with plastic corrugated skylights, which is in good to fair condition The exterior finishes include stucco and metal roll-up doors, both of which are in good condition Only the warehouse roll-up door is mechanically operated The rest are manually operated The standard exterior doors vary from good to poor condition

The interior finishes include gypsum board walls and ceilings, VCT and carpet flooring, all of which are in good to fair condition in the offices and are in poor condition in the restrooms The warehouse and storage areas have exposed concrete floors which are in fair to poor condition and exposed walls, including uncovered insulation, which are in fair condition.

There is also a loft in the warehouse with metal access stairs and a metal guardrail, all of which are generally in good condition.

| Recommendation | Category[1] |
|---|---|
| • Perform a detailed Accessibility Survey to identify and address all barriers to accessibility (drinking fountains, signage, restrooms, and path-of- travel). | **1** |
| • Replace and/or upgrade interior and exterior finishes in fair or poor condition. | **2** |
| • Provide skylights on structures without skylights for improved day lighting. | **3** |

[1] Refer to "Basis of Assessment" in the Methodology for category description.

## 2. General Site

### 2.1. Site Accessibility

Path-of-travel issues such as high thresholds and uneven floors were noticed at the corporation yard.

The asphalt paving has recently been redone, and hence, is in good condition.

| Recommendation | Category |
|---|---|
| • Perform a detailed Accessibility Survey to identify and address all barriers to accessibility per CBC and DSA provisions. (Drinking fountains, signage, restrooms, and path-of- travel). | 1 |
| • Replace and repair concrete paving where it is either a safety hazard, barrier to accessibility, or compromises long term sustainability. | 1 |

### 2.2. Parking and Bus Parking

There appears to be adequate parking space for cars, though the stalls have not been identified with paint.

The parking area is not sufficient for bus parking.

| Recommendation | Category |
|---|---|
| • Provide designated parking space for car parking. | 3 |

## Structural

The subject buildings were evaluated based on achieving a “life safety protection” performance objective This performance objective represents minimum standards of seismic resistance generally recognized as providing adequate seismic risk protection to building occupants during large locally occurring earthquakes The deficiencies identified in this report reflect the ASCE 31-03 Tier I results which were confirmed via rough code based analysis and/or ASCE 31-03 Tier II analysis as applicable.

### 2. District Shop

The District shop is a single story wood framed building with an unknown original construction date No information was found on the structure The analysis was performed based on the design of similar buildings as well as our visual inspection Based on ASCE Tier I analysis, the District shop has several deficiencies The first one is redundancy – the longitudinal direction has only one line of resistance The second one is openings – the front of the building has more than 80% in openings The third one is wood sills bolts on which no information was found and that could not be accessed to verify sill bolts spacing The final one is hold-down anchors – no hold-down anchors were seen during the visual inspection.

**This building receives a subjective rating of 3[2]**

| Recommendation | Category |
|---|---|
| • Add plywood shear walls with appropriate sill bolts and hold downs to the exterior walls to create an adequate lateral force resisting system in both directions. | 1 |

### 3. District Storage

District storage is a single story wood framed building with an unknown original construction date No information was found on the structure The analysis was performed based on the design of similar buildings as well as our visual inspection Based on ASCE Tier I analysis, District storage does not have any deficiencies No retrofits are required at this time.

**This building receives a subjective rating of 1**

### 4. District Warehouse

The building denoted on the key plan as WH 2 is a single story wood framed building. Both the seismic loads acting in transverse and longitudinal direction are resisted by exterior and shear wallsAll shear walls in both directions were found to be adequate. Based on the ASCE tier 1 analysis, WH 2 does not have any deficiencies. No retrofits are required at this time.

**This building receives a subjective rating of 1**

[2] Refer to “Structural” division of the Methodology section for system rating description.

## Mechanical

The following reports and comments are based on observations of the general condition of the mechanical systems and noticeable code issues resulting from an on-site visit, review of the existing record drawings, and feedback from Mountain View Whisman School District staff. Each existing HVAC system should be reviewed, tested, and upgraded to correct the possible problems due to faulty instruments, controls, and other installation issues. Only limited record drawings of the District Warehouse were available.

### 1. HVAC Equipment.

The site consists of three buildings; the smallest of the shop buildings is primarily used as storage. This building is served by one gas/electric unit heater, however, it appears not to be functional and the main gas line for this unit is shutoff.

The District Warehouse building, modernized in 1997, consists of three offices and one large storage area. The three offices are served by a gas/electric furnace located above the offices and a condensing unit located outside the building. The existing ductwork and air distribution for the offices appears to be in fair condition. The thermostat is located in the largest of three offices. The large storage area is served by two gas/electric unit heaters on opposite ends of the room controlled by one thermostat. The three offices are served by an IDF consisting of a mini switch mounted on a wall in the large storage area.

The other Shop building consists of offices, a break room, a storage room and restrooms. The break room is served by a window mounted heat pump, exhaust fan, and wall mounted heater. One office is served by a window mounted heat pump, exhaust fan and wall mounted heater. For this office and break room not all of the mechanical systems appear to be functional. The other office is not served by any air conditioning device and appears to be used as storage. The two restrooms are not served by mechanical ventilation or air conditioning units. The main storage area is served by a gas/electric unit heater.

| Recommendation | Category |
|---|---|
| • The use of each room should be evaluated and can be air conditioned by air conditioning roof, split system (indoor furnace and outdoor condensing unit) or window heat pump or window heat pump. Replace all HVAC Units with high efficiency units to meet or exceed the current Title 24 requirements. High efficiency units will use less energy and save on energy cost. | **2** |
| • For the storage area roll up doors, provide infared door heaters. This will provide better heating and not stratification. With the current gas/electric unit heaters mounted high to the ceiling, the hot air tends to rise and is not efficient for heating the space. | **2** |
| • For the storage area, provide exhaust fans to help ventilate the air. If possible, install louvers 2 to 3 feet above the floor for | **2** |

| | |
|---|---|
| make up air (fresh air). | |
| • For each restroom, provide an exhaust fan to ventilate the air. | **2** |
| • For offices without air conditioning, provide a split system (indoor fan coil and outdoor condensing unit). | **2** |
| • In the future, if any space is converted to an IDF or MDF room, provide a cooling only split system (indoor fan coil and outdoor condensing unit). | **2** |
| • Replace HVAC Equipment with new that will qualify for Green Building Certification, either LEED or CHPS. | **3** |

**2. Energy Management System (EMS).**

Currently there is no Energy Management System (EMS) for any of the mechanical systems servicing the Corp Yard. Each mechanical unit runs on its own dedicated control system.

| **Recommendation** | **Category** |
|---|---|
| • Install Energy Management System (EMS), which is BACNet compatible with internet access through District network, ease of use, and password protected. This EMS will be faster, easier to maintain, and will meet current technology changes. | **3** |

## Plumbing and Site Utilities

This report and comments to follow are based on observations of the general condition of the plumbing systems and site utilities and noticeable code issues resulting from an on-site visit, review of the existing record drawings and feedback from Mountain View Whisman School District staff.

### 1. Plumbing System

The plumbing fixtures in the building and piping system were installed in 1950. Hose bibs at exterior walls of the buildings are without vacuum breaker device. Domestic hot water piping were not insulated. Typical life expectancy of plumbing equipment can be between 5-10 years, depending on type of equipment. Plumbing fixtures such as water closets do not meet current water conservation standards.

| Recommendation | Category |
|---|---|
| • Provided vacuum breaker devices for all exterior hose bibs to prevent backflow into the potable water system. | 1 |
| • Replace plumbing equipment at the end of life expectancy. | 2 |
| • Replace existing plumbing fixtures, i.e., faucets, water closets, with high efficiency plumbing fixtures that meet green building certification like LEED or CHPS to reduce water consumption (i.e., install waterless urinals and low-consumption flush toilets) | 2 |

### 2. Gas

The gas piping distribution system including gas piping and main were installed in 1950. The buildings gas supply comes from Graham Middle School site gas piping system. Portion of the site and building gas piping was replaced in 1997. The rest of gas piping for the site and other corp yard buildings has not been replaced.
The gas meter supplies the furnaces in the building.

Gas piping has a typical life expectancy of 25-30 years. The exterior steel gas piping runs underground and branches-off to each building with a riser at the exterior wall and a shut-off valve below grade. The interior steel gas piping is inside the building connects to the mechanical equipment in the building.

| Recommendation | Category |
|---|---|
| • Provide an earthquake-actuated gas shutoff valve for the gas system to automatically shut off gas in the event of a seismic disturbance. | 2 |

### 3. Domestic Water

Although Graham Middle School domestic water system was replaced in the 2000 modernization project, the corp yard domestic water was not replaced. The corp. yard domestic water system in the building was installed in 1950. Typical domestic mains constructed in the last 50 years were constructed of 4 inch diameter asbestos cement (AC) pipe.

The pipe materials utilized on the smaller lines vary from solvent-weld polyvinyl chloride pipe (PVC) to ductile iron pipe (DIP) with the likelihood of limited amounts of copper and/or ferrous metal pipe used at or in the individual building services.

| Recommendation | Category |
|---|---|
| • The site domestic water system is to be replaced together with the sanitary sewer and storm drainage systems. | 2 |

### 4. Sanitary Sewer

The sanitary sewer system was installed in 1950. Typically sanitary sewer systems have a life expectancy of 30-40 years depending on the piping material installed. In 1960s and 1970s, sanitary main trunk lines were typically 6-inch vitrified clay pipe (VCP). Clay pipe has long been used for sanitary sewer mains and is still considered a competent product for this purpose. Depending on location, internal velocities, and adequate joints, VCP can have life expectancy up to 40-years.

| Recommendation | Category |
|---|---|
| • For sanitary sewer system either perform a video survey to assess the type of piping material and the percentage to be replaced or replace all piping. Apply high velocity water jetters to the system prior to a video survey. | 2 |

### 5. Storm Drainage

Typically storm drainage systems have a life expectancy of 30-40 years depending on the piping material installed. Typical Storm Drainage piping materials include reinforced concrete pipe (RCP), corrugated metal pipe (CMP), polyvinyl chloride pipe (PVC), and high-density polyethylene pipe (HDPE).

| Recommendation | Category |
|---|---|
| • For storm drainage system, either perform a video survey to assess the type of piping material and the percentage to be replaced or replace all piping. Apply high velocity water jetters to the system prior to a video survey. | 2 |

## Electrical

This report and comments to follow are based on observations of the general condition of the electrical systems and site utilities and noticeable code issue resulting from an on-site visit and feedback from Mountain View Whisman School District staff. Only limited record drawings of the District Warehouse were available.

### 1. Power

There are two power sources for the District warehouse and shop buildings. A 200A, 208/120V, 3 phase panel located in the warehouse building is fed from the main switchboard outside of the central building with a partial underground and partial overhead feeder over the roof of the shop building. The panel was installed in 1998 and is in good condition with adequate capacity and breaker spaces for future addition. All areas have adequate convenience outlets for tasks to be performed in the area.

A 100A, 240/120V, 1 phase panel located in the shop building is fed from distribution panel "DP5" outside of classroom 47. The shop building panel was installed when the shop building was built and is in poor condition with no spare capacity for growth and limited breaker spaces for future connection. Most of the areas have minimum power outlets or circuitry for the current use. The only tool that requires three phase power is connected to the warehouse panel via an underground conduit. Low voltage system conduits between shop buildings were installed on the roof and along exterior walls. Interior low voltage cables were installed exposed without conduit.

| Recommendation | Category |
|---|---|
| • Replace existing panel at shop building with new to provide capacity for future growth. | 2 |
| • Provide additional convenience outlets as needed. | 3 |

### 2. Lighting

High bay HID fixtures are provided in the high ceiling warehouse area. All other areas have fluorescent fixtures with electronic ballast and T8 lamps. The lighting level meets the minimum lighting level required for the task performed in each area. Interior fixtures are controlled by wall mounted local switches and do not comply with Title 24 automatic control requirements. Exterior perimeter building light fixtures are controlled by a photocell and time clock. There is not adequate building light for pedestrian safety. The parking lot does not have adequate lighting for pedestrian and vehicle access.

| Recommendation | Category |
|---|---|
| • Replace existing exterior light fixtures and add additional fixtures along building perimeter and parking lot to improve safety. | 1 |
| • Connect exterior lighting to EMS system for energy saving and ease of control. | 2 |
| • Provide automatic control of interior lighting according to Title 24 control requirements. | 2 |

### 3. Fire Alarm

There is no fire alarm system on site.

| Recommendation | Category |
|---|---|
| • Provide automatic addressable fire alarm system and adequate notification devices to comply with current code. | 1 |

### 4. Paging/Clock

There is no Paging/Clock system on site. Paging system not needed at corp yard

### 5. Security

Existing security system is in working condition. Door contacts and audio motion sensors are located at exterior doors and monitored by Sonitrol alarm.

## Technology

These recommendations are based on the information obtained during the observation of the general condition of the schools and feedback from staff at MVWSD.

The site consists of three buildings; the smallest of the Shop buildings is primarily used as storage.

The District Warehouse building, modernized in 1997, which consists of three offices and one large storage area. The three offices are served by an IDF consisting of a mini switch mounted on a wall in the large storage area.

The other Shop building (non-modernized) consists of offices, break room, storage room and restrooms. In the large storage area, there is an IDF that services this area.

### 1. Structure Cabling

The copper cabling is CAT5 and was installed over ten years ago. Station cabling is installed in plastic wiremold on the walls and station jacks are a mix of blocks and different style faceplates. Cable labeling is a mix of styles and some have no labeling or missing labels. There are six strands of 62.5/125 multi-mode fiber from the IDF in the non-modernized building to another IDF in the adjacent building. The IDF in the building that was modernized does not have fiber backbone but uses copper ties to the non-modernized building. Overall, the structure cabling is in fair condition.

| Recommendation | Category |
|---|---|
| • Replace cabling to bring it up to both current industry standards, in order to support the different applications (EMS, Video Safety, VoIP, web applications etc.). Recommendation is to upgrade the horizontal cabling to Category 6. | **3** |
| • Demolish and remove all abandoned cables. | **3** |
| • Upgrade the fiber backbone to the latest industry standards. | **3** |

### 2. IDF/MDF Environment

IDFs are typically located in the storage room and are dusty and dirty. The IDFs do not get filtered air. This will cause equipment fans to fail and the device to shut down due to heat or the complete failure of a network switch. The failure of a network will cause that entire building to go off-line for an extended period until the device is replaced. The IDFs are not equipped with a UPS, grounding and proper horizontal wire manager and the wire managers are not used effectively creating a twisted and unmanageable wire system.

| Recommendation | Category |
|---|---|
| • Implement a solution that will safeguard the equipment located in the IDFs. | 2 |
| • Provide a clean, air conditioned, and secure environment for network infrastructure or relocate the IDF. | 2 |
| • Provide appropriate electrical, grounding, and UPS solutions in each IDF. | 2 |

**3. Video Safety System**

There is no video safety system for this site.

| Recommendation | Category |
|---|---|
| • Implement a network based video safety solution that will monitor the exterior and problem areas of the campus. | 3 |

**4. Data Network**

The school is using old and out of warranty 3Com switches, and other mini Ethernet switches (NetGear). The vents for the fans on the switches are clogged with dust and debris therefore reducing the life of each switch. With the shift toward web-based applications there is a need for increased Internet bandwidth.

| Recommendation | Category |
|---|---|
| • Replace the current switching solution with the District's new switching standard (HP Procurve or equal) to support Gig connection to the desktop. | 3 |
| • Replace the current wireless solution with an enterprise solution that allows the school to efficiently deploy, secure, and centrally manage the wireless LAN and meets current industry standard such as 802.11n. | 3 |

**5. Video Distribution Systems**

There is no video distribution system for this site.

**6. Phone System**

The phone system, sipXecs IP PBX, was installed during the summer of 2009. Phones are Polycom 321/331 and 450s.

**7. Smart Classroom**

There is not smart classroom for this facility.

# *Corporation & Transportation Yards*
# *Crittenden*

**General Information**

| | |
|---|---|
| Address: | 1701 Rock Street<br>Mountain View, CA 94043 |
| Telephone: | |

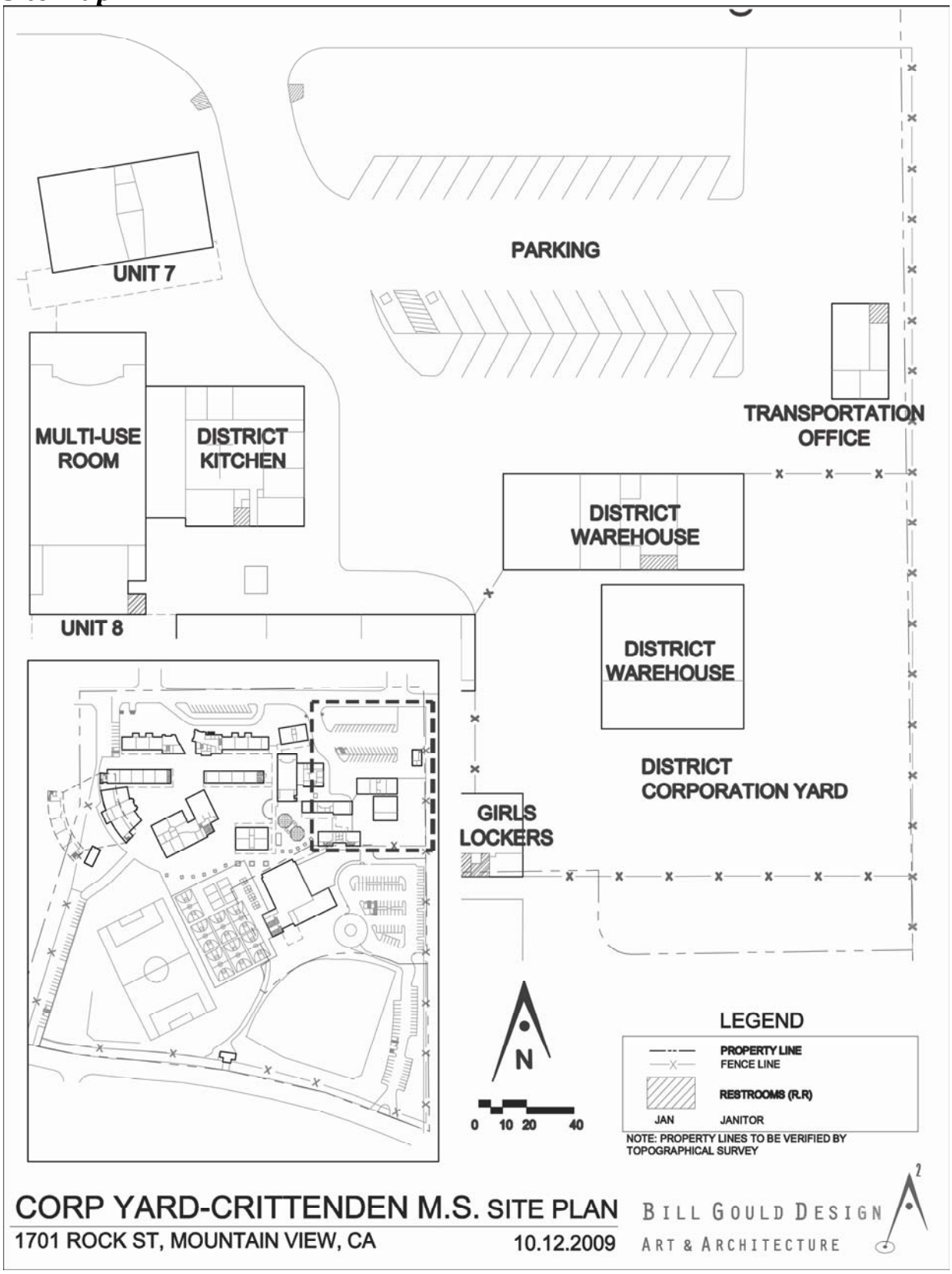
**Site Information:**

| | |
|---|---|
| Gross Acreage: | 20.94 Acres<br>(*Property includes Crittenden M.S)* |
| Net Useable Acreage | 1.03 Acres<br>(*Assumed area designated to corp. yard)* |

**Building Information:**

| | |
|---|---|
| Original Construction: | 1960s (exact date unknown) |
| Additions: | 1960s - 1998 |
| Gross Building Area: | 8,620 sq. ft. |
| Site-built Construction: | 7,660 sq. ft. |
| Modular Construction : | 960 sq. ft. |

## *Site Map*


UNIT 7
PARKING
MULTI-USE ROOM
DISTRICT KITCHEN
TRANSPORTATION OFFICE
DISTRICT WAREHOUSE
UNIT 8
DISTRICT WAREHOUSE
DISTRICT CORPORATION YARD
GIRLS LOCKERS
N
0 10 20 40
LEGEND
PROPERTY LINE
FENCE LINE
RESTROOMS (R.R)
JAN JANITOR
NOTE: PROPERTY LINES TO BE VERIFIED BY TOPOGRAPHICAL SURVEY
CORP YARD-CRITTENDEN M.S. SITE PLAN
1701 ROCK ST, MOUNTAIN VIEW, CA
10.12.2009
BILL GOULD DESIGN
ART & ARCHITECTURE

## *Introduction*

One of the District corporation yards is located at Crittenden Middle School's campus.

The Crittenden corporation yard consists of two site built warehouses, a modular transportation office and a bus parking yard.

Information was not found regarding the original construction date of the buildings except for the transportation office modular which was added in 1998.

## *Planning Process*

The assessment process included the the review of drawings, site visits & field verification, meetings with district facilities staff, and, finally, evaluation of collected data. Following the assessment process, recommendations were developed to improve the conditions and suitability of each facility. These recommendations were classified based on categories described in "Basis of Assessment" in the Methodology section of this report. The existing conditions were evaluated utilizing a Good, Fair, Poor rating system also described in the Methodology section.

The information provided is based on District policies and the most recent codes and guidelines in effect at the time of this report. As these factors change, recommendations will be revised and reflected in the master plan. The Conditions & Needs Analysis Report herein will serve as a working tool guiding the District's future Facilities Improvement Plan.

## *Summary*

While potential deficiencies were identified within this study, in no instance were they of a serious enough nature to warrant immediate action. Individual scopes of work and their projected costs will be developed as part of the upcoming master plan to be implemented in future modernization projects

## *Assessment Summary*

Existing facilities were evaluated from functional, code compliance, architectural and engineering perspectives. Summary of the findings along with proposed recommendations of each division are provided herein.

# Architectural

### 1. Buildings

### 1.1. District Corporation Yards

The Crittenden Corporation yard has two warehouses. Based on information gathered from district staff, one was moved to the site in the early 1960s and the other in the late 1960s, with an addition being made in the late 1970s. The buildings include several storage spaces, a shop, a tool shed, and a staff lounge. There are also 2 restrooms, neither of which is accessible. The casework and sinks in the staff lounge are also not accessible.

The roofing system on these buildings is corrugated metal with plastic corrugated skylights and is in fair to poor condition. The exterior finishes include corrugated metal siding and metal roll-up doors which are in fair to poor condition, a wood side-rolling door which is in fair condition, and standard exterior doors that are in poor condition.

The interior finishes include exposed plywood and gypsum board ceilings which are in good condition, but only 6'-10' high in some areas of the lounge. The painted plywood walls are in poor condition and the gypsum board walls are in fair condition. The carpeted floor set on top of blacktop, the VCT flooring and exposed concrete floors are all in fair to poor condition. The doors and windows are in poor condition, the casework is in fair to poor condition, and the industrial shelving is in good condition. The restrooms have VCT floors and gypsum board walls that are generally in poor condition. One restroom is missing a sink.

There is also a wood loft in the warehouse with wooden access stairs which are in fair condition.

| Recommendation | Category[1] |
|---|---|
| • Upgrade restrooms to meet current accessibility code requirements. | **1** |
| • Perform a detailed accessibility survey to identify and address all accessibility issues (drinking fountains, signage, restrooms and path-of- travel). | **1** |
| • Replace and/or upgrade interior and exterior finishes in fair or poor condition. | **2** |
| • Provide skylights on structures without skylights for improved daylighting. | **3** |

[1] Refer to "Basis of Assessment" in the Methodology section of this report for category description.

### 1.2. District Transportation Yard

The District Transportation office is housed in a modular unit installed in 1998.

Exterior finishes include T-111 siding which is in fair condition, doors which are in fair to poor condition, and aluminum single-glazed slider windows which are in fair condition.

The interior finishes include suspended acoustical tile ceilings that are in poor condition, interior doors which are in good condition, wood paneling and carpet that are all in good condition. Restroom finishes include FRP wall covering and VCT flooring, both of which are in poor condition.

The accessories such as whiteboards are in good condition and mini-blinds are in fair condition.

| Recommendation | Category |
|---|---|
| • Replace and/or upgrade interior and exterior finishes in fair or poor condition. | 2 |

## 2. General Site

### 2.1. Site Accessibility

Several path-of-travel issues have been noticed including high thresholds, uneven floors and a non-compliant ramp at the modular building. The drinking fountains are generally code compliant where installed.

| Recommendation | Category |
|---|---|
| • Perform a detailed accessibility survey to identify and address all accessibility issues (drinking fountains, signage, restrooms and path-of- travel). | 1 |

### 2.2. Bus Parking

The Crittenden Corporation yard currently houses a bus parking area which is too narrow and hard to access. The district needs better bus parking facilities at this time.

The asphalt paving at the Crittenden site is in poor condition and has insufficient drainage.

| Recommendation | Category |
|---|---|
| • Improve bus parking facilities. | 3 |

## Structural

The subject buildings were evaluated based on achieving a "life safety protection" performance objective. This performance objective represents minimum standards of seismic resistance generally recognized as providing adequate seismic risk protection to building occupants during large locally occurring earthquakes. The deficiencies identified in this report reflect the ASCE 31-03 Tier I results which were confirmed via rough code based analysis and/or ASCE 31-03 Tier II analysis as applicable.

### 1. District Warehouse 1

District Warehouse 1 is a single story steel framed building with unknown original and remodel construction dates. No information was found on the structure. We evaluated the building based on visual inspection and our experience with similar buildings. Based on ASCE Tier I analysis, District Warehouse 1 has one deficiency. The lateral force resisting system in the longitudinal direction is not adequate.

**This building receives a subjective rating of 3[2]**

| Recommendation | Category |
|---|---|
| • Install tension rods on the two longitudinal walls to provide adequate lateral force resistance. | 1 |

### 2. District Warehouse 2

District Warehouse 2 is a single story wood and steel framed building with an unknown original and remodel construction date. No information was found on the structure. We evaluated the building based on visual inspection and our experience with similar buildings. Based on ASCE Tier I analysis, the original portion of District Warehouse 2 has no deficiencies, but the addition has deficiencies. There is no lateral force resisting system.

**This building receives a subjective rating of 3**

| Recommendation | Category |
|---|---|
| • Add plywood on all four sides of the addition to provide adequate lateral force resisting system. | 1 |

[2] Refer to "Structural" division of the Methodology section for system rating description.

## Mechanical

The following reports and comments are based on observations of the general condition of the mechanical systems and noticeable code issues resulting from an on-site visit, review of the existing record drawings, and feedback from Mountain View Whisman School District staff. Each existing HVAC system should be reviewed, tested, and upgraded to correct the possible problems due to faulty instruments, controls, and other installation issues.

### 1. HVAC Equipment.

The site consists of 2 buildings that are joined together. The main building consists of storage areas, offices, a break room, restroom and attic space. There are three offices that are currently used as storage. These three offices were served by separate window heat pump units and one gas/electric furnace located above the offices. Both mechanical systems appear to be abandoned in place. The storage area, other offices and the break room are served by gas/electric furnace locate in the attic space. The restroom is served by an exhaust fan.

The other building is used mainly as storage. This building has no air conditioning or ventilation system.

| Recommendation | Category |
|---|---|
| • The use of each room should be evaluated and can be air conditioned by Air Conditioning Roof, Split System (indoor furnace and outdoor condensing unit) or window heat pump. Replace all HVAC Units with high efficiency units to meet or exceed the current Title 24 requirements. High efficiency units will use less energy and save on energy cost. | **2** |
| • For the storage area roll up doors, provide infrared door heaters. This will provide better heating and will not cause stratification. Do not install gas/electric unit heaters mounted high to the ceiling, the hot air tends to rise and is not efficient for heating the space. | **2** |
| • For the storage area, provide exhaust fans to help ventilate the air. If possible, install louvers 2 to 3 feet above the floor for make up air (fresh air). | **2** |
| • In the future, if any space is converted to an IDF or a MDF room, provide a cooling only split system (indoor fan coil and outdoor condensing unit). | **2** |
| • Replace HVAC Equipment that will qualify for Green Building Certification, either LEED or CHPS. | **3** |

**2. Energy Management System (EMS).**

Currently there is no Energy Management System (EMS) for any of the Mechanical Systems for the Corp Yard. Each mechanical unit runs on its own dedicated control system.

| Recommendation | Category |
|---|---|
| • Install Energy Management System (EMS), which is BACNet compatible with internet access through District network, ease of use and password protected. This EMS will be faster, easier to maintain and meet current technology changes. | **2** |

## Electrical

This report and comments to follow are based on observations of the general condition of the electrical systems and site utilities and noticeable code issue resulting from an on-site visit and feedback from Mountain View Whisman School District staff. Record drawings were not available.

### 1. Power

The existing electrical service to the corporation yard is located at the west end of the warehouse building. The existing 200 amp, 208/120V, 3 phase, 4 wire service main is fed from distribution panel "8DPB" located at the electrical service yard north of the kitchen building. There are three (3) sub panels/load centers located in the shop area for lighting and power receptacle circuitry. The panels/load centers are of original build and are in poor condition with no spare capacity for growth, and have limited breaker spaces for future connection. Most of the areas have minimum power outlets or circuitry for the space used. The majority of the power distribution conduits were installed underground. Some low voltage system conduits were installed on the roof or along exterior walls.

| Recommendation | Category |
|---|---|
| • Maintain code required clearance in front of all electrical panel boards and equipment. | 1 |
| • Replace existing panel with new and provide capacity for future growth. | 2 |
| • Provide new underground low voltage system raceway system connected to the campus backbone distribution. | 3 |

### 2. Lighting

The majority of the light fixtures are of fluorescent source with electronic ballast and T8 lamps. The lighting level meets the minimum lighting level required for the task performed in each area. Interior fixtures are controlled by wall mounted local switches and do not comply with Title 24 automatic control requirement. Exterior perimeter building light fixtures are controlled by photocells and time clock. Additional light fixtures shall be added for pedestrian safety. The parking lot is provided with adequate lighting for pedestrian and vehicle access.

| Recommendation | Category |
|---|---|
| • Replace existing exterior light fixtures and add additional fixtures along perimeter to improve safety. | 1 |
| • Connect exterior lighting to campus EMS system. | 2 |
| • Provide automatic control of interior lighting according to Title 24 control requirement. | 2 |

### 3. Fire Alarm

The corporation yard is provided with the original built manual fire alarm system with pull stations and exterior horns. The fire alarm devices are monitored by the main fire alarm panel located at the middle school. There is no ADA visual notification device on site so this system does not comply with current fire code.

| Recommendation | Category |
|---|---|
| • Replace existing fire alarm system with automatic addressable fire alarm system and adequate notification devices to comply with current code. | 1 |

### 4. Paging/Clock

There is no Paging/Clock system on site and it is not needed.

### 5. Security

Existing security system is in working condition. Door contacts and motion sensors are located at exterior doors and are monitored by Bay Alarm.

| Recommendation | Category |
|---|---|
| • Provide new Sonitrol security system per district standard with door contacts, audio motion sensor at areas with exterior doors & windows, and central monitoring capability. | 2 |

## Plumbing & Site Utilities

This report and comments to follow are based on observations of the general condition of the plumbing systems and site utilities and noticeable code issues resulting from an on-site visit, review of the existing record drawings and feedback from Mountain View Whisman School District staff.

### 1. Plumbing System.

The plumbing fixtures in the building and piping system were installed in 1950. Hose bibs at exterior walls of the buildings are without vacuum breaker device. A small electric water heater installed under the counter supply the hot water requirements of the plumbing fixtures in the building. Typical life expectancy of Plumbing Equipment can be between 5-10 years, depending on type of equipment. Plumbing fixtures such as urinals and water closets do not meet current water conservation standards.

| Recommendation | Category |
|---|---|
| • Provided vacuum breaker devices for all exterior hose bibs to prevent backflow into the potable water system. | 1 |
| • Replace plumbing equipment at the end of life expectancy. | 2 |
| • Replace existing plumbing fixtures, i.e. faucets, urinals, water closets, with high efficiency plumbing fixtures that meet green building certification like LEED or CHPS to reduce water consumption (i.e. install waterless urinals and low-consumption flush toilets) | 2 |

### 2. Gas.

The building is supplied with two gas meters, manifold together and without an earthquake-actuated gas shutoff valve. The gas meters are located behind the corp. yard building. The first gas meter has a capacity of 500 CFH and supplies the furnaces in the building and the second gas meter is not in service. The site and building gas piping has not been replaced since the original installation.

Gas piping has a typical life expectancy of 25-30 years. The exterior steel gas piping runs underground and branches-off to each building with a riser at the exterior wall and a shut-off valve below grade. The interior steel gas piping is inside the building, below the roof and connects to the mechanical equipment in the building.

| Recommendation | Category |
|---|---|
| • Provide an earthquake-actuated gas shutoff valve for the gas system to automatically shut off gas in the event of a seismic disturbance. | 1 |

**3. Domestic Water.**

Domestic water for the corp. yard is supplied from the Crittenden Middle School water meter. Domestic water for the site and in the building was installed in 1950 and never replaced. Typical domestic mains constructed in the last 50 years were constructed of 4 inch diameter asbestos cement (AC) pipe.

The pipe materials utilized on the smaller lines vary from solvent-weld polyvinyl chloride pipe (PVC) to ductile iron pipe (DIP) with the likelihood of limited amounts of copper and/or ferrous metal pipe used at or in the individual building services.

| Recommendation | Category |
|---|---|
| • The site domestic water system is to be replaced together with the sanitary sewer and storm drainage systems. | **2** |

**4. Sanitary Sewer**

The sanitary sewer system was installed in 1950. Typically sanitary sewer systems have a life expectancy of 30-40 years depending on the piping material installed. In 1960s and 1970s, sanitary main trunk lines were typically 6-inch vitrified clay pipe (VCP). Clay pipe has long been used for sanitary sewer mains and is still considered a competent product for this purpose. Depending on location, internal velocities, and adequate joints, VCP can have life expectancy up to 40-years.

| Recommendation | Category |
|---|---|
| • For sanitary sewer system either perform a video survey to assess the type of piping material and the percentage to be replaced or replace all piping. Apply high velocity water jetters to the system prior to a video survey. | **2** |

**5. Storm Drainage**.

Typically storm drainage systems have a life expectancy of 30-40 years depending on the piping material installed. Typical Storm Drainage piping materials include reinforced concrete pipe (RCP), corrugated metal pipe (CMP), polyvinyl chloride pipe (PVC), and high-density polyethylene pipe (HDPE).

| Recommendation | Category |
|---|---|
| • For storm drainage system, either perform a video survey to assess the type of piping material and the percentage to be replaced or replace all piping. Apply high velocity water jetters to the system prior to a video survey. | **2** |

## Technology

These recommendations are based on the information obtained during the observation of the general condition of the schools and feedback from staff at Mountain View Whisman School District. Record drawings were not available.

The site consists of 2 buildings that are joined together; the building's system was installed in 1950.

The main building consists of storage areas, offices, a break room, a restroom, and attic space. There are three offices that are currently used as storage. The other building is used mainly as storage.

### 1. Structure Cabling

None. There are many old and abandoned cables in the building.

| Recommendation | Category |
|---|---|
| • Install new cabling that meets current industry standard in order to support the different applications (EMS, Video Safety, VoIP, web applications etc.). Recommendation is to install new Category 6 horizontal cabling. | 3 |
| • Demolish and remove all abandoned cables | 3 |
| • Install the latest industry standard fiber backbone. | 3 |

### 2. IDF/MDF Environment

None. An IDF cannot be found in the building.

| Recommendation | Category |
|---|---|
| • Secure an area of the building to create an IDF for this building. Implement a solution that will safeguard the equipment located in the IDFs. | 2 |
| • Provide a clean, air conditioned, and secure environment for network infrastructure. | 2 |
| • Provide appropriate electrical, grounding, and UPS solutions in the IDF. | 2 |

**3. Video Safety System**

There is no video safety system on this site.

| Recommendation | Category |
|---|---|
| • Implement a network based Video Safety solution that will monitor the exterior and problem areas of the campus. | 3 |

**4. Data network**

There is no data network on this site.

| Recommendation | Category |
|---|---|
| • Provide a solution that meets the District new switching standard to support gigabit connections to the desktop. | 3 |
| • Provide a new enterprise wireless solution that allows the school to efficiently deploy, secure, and centrally manage the wireless LAN. | 3 |

**5. Video Distribution Systems**

There is no video distribution system on site.

**6. Phone System**

There is no phone system for this building.

| Recommendation | Category |
|---|---|
| • Install and implement the District's current phone system, sipXecs IP PBX, at this school. | 3 |

**7. Smart Classroom.**

There is no smart classroom on this facility.

# Appendix 1

# Needs Assessment Questionnaire and Committee Suggestions

## School Facilities Needs Assessment Questionnaire

General

1. What is the BEST thing about this campus?
2. What is the greatest current need of this campus?
3. What is the greatest need in the next ten years at this campus?
4. What programs should be expanded in the next ten years? To what size (i.e. number of students)?
5. What new programs should be provided on this campus? To what size (i.e. number of students)?
6. What programs aren't working and could be considered for elimination?

General Education

7. How many rooms are being used for General Education? How do these rooms work for General Education? What is the part that works the best? What is the part that works the worst? How would you change these rooms to work better?
8. What General Education elements would you like to provide, but can't because of a lack of an appropriate space?
9. Are any programs utilizing flex space (i.e., two or more programs using the same space at different time)? How is this working? Are there other programs that could utilize flex space?
10. Are any programs using Interdisciplinary Space (i.e., two or more programs in a combined instructional setting, e.g., math with science, or math with art)? How is this working? Are there other programs that should be considered for Interdisciplinary Space?
11. What General Education elements should be added in the next ten years? What spaces would be required to accommodate them?
12. How could General Education be used to support community interaction?

Science Education

13. How many rooms are being used for science education? What is the part that works the best? What is the part that works the worst? How would you change these rooms to work better? (list each type of space separately)
14. What science education elements would you like to provide, but can't because of a lack of an appropriate space?
15. What science education elements do think should be added in the next ten years? What spaces would be required to accommodate them?
16. How could science education curriculum be used to support community interaction?

Special Programs (Art/Music/Theatre)

17. How many rooms are being used for special programs (art, music, theatre)? What is the part that works the best? What is the part that works the worst? How would you change these rooms to work better? (list each type of space separately)
18. What special programs would you like to provide, but can't because of a lack of an appropriate space?
19. What special programs do think should be added in the next ten years? What spaces would be required to accommodate them?
20. How could the special programs curriculum be used to support community interaction?

Industrial Arts/Technical Arts

21. How many rooms are being used for Industrial Arts/Technical Arts (shops, labs, etc.)? What is the part that works the best? What is the part that works the worst? How would you change these rooms to work better? (list each type of space separately)
22. What Industrial Arts/Technical Arts elements would you like to provide, but can't because of a lack of an appropriate space?
23. What Arts/Technical Arts elements do think should be added in the next ten years? What spaces would be required to accommodate them?
24. How could the Arts/Technical Arts be used to support community interaction?

Physical Education

25. How many rooms are being used for Physical Education? How do these rooms work for Physical Education? What is the part that works the best? What is the part that works the worst? How would you change these rooms to work better?
26. What physical education programs would you like to provide, but can't because of a lack of an appropriate space?
27. What physical education programs do think should be added in the next ten years? What spaces would be required to accommodate them?
28. How could the physical education be used to support community interaction?

Special Education

29. How many rooms are being used for Special Education? What types of Special Education are provided on campus? How do these rooms work for Special Education? What is the part that works the best? What is the part that works the worst? How would you change these rooms to work better?
30. What Special Education programs would you like to provide, but can't because of a lack of an appropriate space?
31. What Special Education programs do think should be added in the next ten years? What spaces would be required to accommodate them?
32. How could the Special Education be used to support community interaction?

Student Support

33. What functions take place in the Multipurpose Room/Building? What is the part that works the best? What is the part that works the worst? How would you change these rooms to work better?
34. What can't be done in the Multipurpose Room/Building that you would like to do?
35. How could the Multipurpose Room/Building be used to support community interaction?
36. What functions take place in the Learning Center/Library? What is the part that works the best? What is the part that works the worst? How would you change these rooms to work better?
37. What can't be done in the Learning Center/Library that you would like to do?
38. How could the Learning Center/Library be used to support community interaction?
39. What other student support services should be provided?
40. Where do students eat lunch when it is sunny? When it is raining? Is this adequate? How would you prefer to have students eat lunch?
41. How does food service work on your campus? Does this work well? If not, how would you change the food service to work better?
42. How do the student restrooms work on your campus? What is the part that works the best? What is the part that works the worst? How would you change these rooms to work better?

Pre-Kindergarten

43. How many rooms are being used for pre-kindergarten classes? Does this work well with the rest of the campus? What is the part that works the best? What is the part that works the worst? How would you change these rooms to work better?
44. Do you see this program expanding in the next ten years? How do see the program interacting with the rest of the campus?

Administration

45. How much space is devoted to administration? What is the part that works the best? What is the part that works the worst? How would you change these spaces to work better?
46. What can't be done in the administration area that you would like to do?
47. How could the administration be used to support community interaction?
48. How do you see the function and arrangement of administration changing in the next ten years?

Teacher Support

49. How many rooms are being used for teacher support (workrooms, lounges, lesson center, training facilities) What is the part that works the best? What is the part that works the worst? How would you change these rooms to work better? (list each type of space separately)
50. What teacher support functions would you like to provide, but can't because of a lack of an appropriate space? Why do you want to provide these functions?
51. What teacher support functions do think should be added in the next ten years? What spaces would be required to accommodate them? Why do think these functions should be added?

Instructional Technology

52. What instructional technologies are being used in core curriculum and special programs (computers, presentation technologies, communication technologies)? What is the part that works the best? What is the part that works the worst? How would you change these rooms to work better?
53. What instructional technologies are being used in special programs (computers, presentation technologies, communication technologies)? What is the part that works the best? What is the part that works the worst? How would you change these rooms to work better?
54. What instructional technologies would you like to provide, but can't because of a lack of equipment, appropriate infrastructure, or appropriate spaces? Why do you want to provide these technologies?
55. What instructional technologies do think should be added in the next ten years? What spaces would be required to accommodate them? Why do think these technologies should be added?

Outdoor Spaces (Curriculum)

56. What curriculum-based outdoor spaces do you have (i.e., blacktop play areas, play structures, fields, etc.)? What programs utilize these facilities? How do they work? How could they work better?
57. How could these facilities be used to support community interaction?

Outdoor Spaces (Non-curriculum)

58. What outdoor spaces do you have that are not directly related to core curriculum programs (i.e., gardens, fields, parks, art areas, etc.)? How are these utilized by you students? How does this work? How could it work better?
59. How could non-curriculum outdoor spaces be used to support community interaction?

Community Use Facilities

60. How many rooms are being used for community use functions (meetings, workrooms, classrooms)? What is the part that works the best? What is the part that works the worst? How would you change these rooms to work better? (list each type of space separately)
61. What community use functions would you like to provide, but can't because of a lack of an appropriate space? Why do you want to provide these functions?
62. What community use functions do think should be added in the next ten years? What spaces would be required to accommodate them? Why do think these functions should be added?

Joint Use Facilities

63. Does your campus have joint-use or Partnership facilities (list each program and space utilized)? How are these working? How could they work better?
64. Are there other potential joint-use or partnerships opportunities currently? In the next ten years?

Campus Environment

65. Do you have areas for displaying student work? How does this work? How could it work better?
66. Do you have informal social spaces on campus (courtyards, gardens, etc.)? How do the students utilize these spaces? How does this work? How could it work better?
67. Is this campus as secure as it could be? Why or why not? What could be done to make this campus more secure?
68. Is the drop-off/pickup area as safe and as functional as it could be? Why or why not? What could be done to make the drop-off/pickup more functional and secure?
69. Is the bus drop-off/pickup area as safe and as functional as it could be? Why or why not? What could be done to make the bus drop-off/pickup more functional and secure?

## Bubb Elementary School

Committee suggestions and concerns brought up at the steering meeting were recorded and categorized as follows. Though it is not feasible to respond to all suggestions, most have been taken into consideration in developing recommendations within this report.

1. ***General Education***
   - Water/sinks needed in each classroom
   - Classrooms tight due to multi-functions
   - Clerestory windows
   - Need teacher supply storage in classrooms
   - Can have two classes in one classroom
   - Provide restrooms in kindergarten classrooms
   - More smaller flexible rooms
   - Classroom bulletin boards in cases
   - More double whiteboards, sliding whiteboards and math boards

2. ***Special Programs (Science, Art, Music…)***
   - Lost their art and science rooms and want them back
   - Had science room with refrigerator, heat, and long tables that worked well
   - Band had its own room – CSMA, music is now in classroom
   - Special education is too far away and needs restrooms, to be near kindergarten complex, main stream
   - Special day classes will have more medically challenged kids

3. ***Student Support (MUR, Library)***
   - Whole school doesn't fit in MUR
   - Would like stage for kids to see, presently not enough room for scenery
   - 99% of kids outside MUR when it rains, displaced at lunch
   - Eat outdoors, MUR doesn't have tables and chairs
   - Make MUR sub-dividable
   - Library is too far from center of campus – not portable, larger, full time librarian, hub of computers
   - Foodservice line is outside – does not work well
   - Homework center should be in library, currently in MUR
   - Need student display in MUR
   - MUR has no paging or telephone

4. ***Administration & teacher support***
   - Need conference rooms
   - Noise issues due to restrooms located in staff area
   - Not enough staff toilets
   - Administration offices view of activity is good
   - Would like an outdoor service window
   - Need small rooms for teachers
   - Projection for teacher training

5. ***Technology***
   - Up to date technology with proper furniture
   - Electrical outlets in center of room
   - Computer lab for full class works now – wireless cart, air cart, hub
   - 5 computers needed in each classroom
   - Smart boards, Elmos
   - Wireless is not strong enough
   - Video surveillance needed
   - Student RFID/smartcards

6. ***Outdoor spaces***
   - Nice gardens outside classrooms
   - More trees in "finger" buildings
   - Tables outside rooms with visibility
   - Covered eating areas
   - Ball wall
   - Covered outdoor area for teachers
   - There is no water in the garden area
   - Desire outdoor tables for instruction
   - Sheds are old
   - Would like outdoor stage with equipment
   - Existing gate by kindergarten works
   - Storage for exterior equipment

7. ***Community Use***
   - Would like more community use, MUR, library, etc.
   - Permanent child care after school facilities on campus
   - Larger MUR for community use
   - Community use needs to be easy and inexpensive

8. ***Campus Environment***
   - Campus space is working

Bubb E.S. Committee Suggestions

- Covered walkway works well
- Drop-off is in the back
- Not enough parking
- Would like to replace portables with permanent buildings
- Drop-off circle is too small, not functional
- Energy self-sustaining
- HVAC controls problematic
- HVAC too strong – no low setting, no fan setting
- “Buffer zone” to aid security
- Poor exterior lighting
- Need central campus security - day and night
- Better way-finding/signage
- Cracked paving at some locations
- Drainage issues
- Portables 20-23 have leakage issues
- Flooding issues at play areas by trees
- Outside of Room 1 kinder floods
- Flooding at middle play area
- Downspouts at walkway 1-8
- Courtyards are noisy

## Castro Elementary School

Committee suggestions and concerns brought up at the steering meeting were recorded and categorized as follows. Though it is not feasible to respond to all suggestions, most have been taken into consideration in developing recommendations within this report.

1. ***General Education***
   - 2 white boards at front and one on side works
   - No casework on four sides
   - White boards should be at ends – long rooms works better
   - Wall covering to be warm and neutral
   - Need back closet storage
   - Like to have two doors
   - Teaching walls are good
   - Need flex location for computers
   - Room 18 smells
   - Need coat hooks
   - Provide places for backpacks and lunches outside classrooms
   - Lighting is good except at portables
   - High ceilings work well

2. ***Special Programs (Science, Art, Music…)***
   - Currently have no art room/science lab – can't do messy activities
   - Use pavilion for messy activities
   - Need space for more experiential learning
   - Tutoring center successful but needs space
   - Art room – integration with other classes
   - Space to display student work
   - Need room for after school programs, currently use computer lab
   - Music is currently taught in classrooms – need soundproofing
   - Special programs need space
   - Special education classrooms need small group spaces, kitchen, and art counters

3. ***Student Support (MUR, Library)***
   - Currently library can't be used for instruction
   - Library is too small, not enough light
   - Would like to have central seating for 40-50 students in library
   - Breakout spaces for 4-5 students in library is desired
   - Library can't be used for research – not enough space for equipment, too cut up, no restrooms, no projection walls
   - Separated space with visibility, moveable panels
   - Would like 50 person rooms
   - Library should be a technology center
   - Drama after school program is in MUR
   - Cafeteria doesn't allow for drama use at day

Castro E.S. Committee Suggestions

- No way to distribute food
- 3 lunch periods
- Sometimes food is cooked in kitchen
- Currently have no foul weather facility

***4. Administration & teacher support***

- Admin has view of playground – offices are too isolated
- Provide small closets for supplies
- Teacher workroom should be larger
- Volunteer space needed
- Front office has no storage and is too messy
- Staff room is too small

***5. Technology***

- More technology infrastructure
- PA system is poor
- One projection screen is limiting, Elmo allows flexibility

***6. Outdoor spaces***

- Would like more green between classrooms, currently it's too noisy
- Covered eating space is desired, a courtyard at MUR
- Outdoor restrooms needed
- There is no storage for PE equipment
- Presently have no track, no path around, no soccer field
- Would like separated play areas for smaller kids
- Gardens work well
- Like to have classroom gardens
- Blacktop is used for assemblies
- Would like an outdoor performance space
- Replace blacktop – would like to be able to use as breakout space

***7. Community Use***

- School is "alive" until 8pm – it's the "living room" of the community
- Library should be a community space
- Community space should be separate from school
- Basketball court is heavily used by community

Castro E.S. Committee Suggestions

***8. Campus Environment***

- Need security of "inner campus"
- Parking is not enough
- Traffic movement is difficult, conflict with bus drop-off
- Emphasis on sustainability, recycling systems
- Portables are too far and remote, too isolated
- Indoor air quality is an issue
- Preschool playground too disruptive
- There is not a designated kindergarten playground
- Central playground is noisy and disruptive
- HVAC zoning is poor
- Windows are not secure
- Exterior lighting too dim
- Daylight creek
- Would like a surveillance system
- Need more restrooms
- Need equivalent resources at back
- Campus should be more centralized
- Provide a separate preschool drop-off
- Office should be easy to find

## Crittenden Middle School

Committee suggestions and concerns brought up at the steering meeting were recorded and categorized as follows. Though it is not feasible to respond to all suggestions, most have been taken into consideration in developing recommendations within this report.

1. ***General Education***
   - The school is too small for number of students
   - 2nd floor is difficult to use due to noise, supervision, and lack of accessibility (elevator doesn't work most times)
   - 200 wing is best because of space but there are no windows
   - 200 wing has two doors
   - Teaching walls work well
   - 300 wing is too small
   - Breakout rooms used well, some as offices
   - 201 & 207 have no natural light
   - Not enough shelf space
   - Would like built-in teacher desks
   - Cannot combine classrooms to collaborate, should have the capability to do so
   - Hard to do group work, not enough space
   - Need more display space
   - Student desks are not moveable – harder to do group work
   - Demonstration desk is not used so much – it's a barrier to students
   - Cabinet space overkill!
   - Currently not enough student display area
   - Would like room for group functions
   - Classrooms with offices work well
   - Not enough textbook storage
   - Proper storage to reduce "visual pollution"
   - Student presentation areas

2. ***Special Programs (Science, Art, Music…)***
   - Art room – good storage, poor display
   - Graphic arts not used
   - No home economics space
   - Robotics club is upstairs
   - Lacking instrument storage
   - Choir room tiered
   - Need practice rooms
   - Need group spaces
   - Would like to do music recording
   - Need a Recording/broadcasting studio
   - Media arts needs equipment
   - Studio doesn't work for instruction, connect to performance arts
   - Art room is too small, it's the same as other classrooms
   - Open cubbies are messy, should be closed

- More display space is required
- Room adjacent to art for computers is too small – poor supervision
- Art lighting not good
- No industrial arts
- Math wings need lab
- Computer lab is too small, there is no teaching space and no demo space
- Need space for computers in lab

***3. Student Support (MUR, Library, Cafeteria, Gym)***

- Stage at MUR used for drama conflicts with lunch
- Café holds 165, less than half population
- Stage has no storage
- MUR only holds half school
- 3 classes are taught at once – one is usually outside
- Food line outside at times – could be smoother
- No enough indoor seating in MUR
- Fresh food is better, salad bar is good
- No dance room, it's used for boxing
- Locker rooms good to be separate, too small for each student
- Offices should be able to supervise lockers
- Currently have no weight room, cardio room
- Library roof leaks
- Library is too small
- Need a counseling center (or in office)
- Need a homework center for at least 100 students
- Should have meeting rooms at library
- Need a learning lab

***4. Administration & teacher support***

- More small flexible meeting rooms (aprox. 8)
- Visibility of nurse's office is desired
- Restrooms are too visible and are not private
- Work room/break room together
- Staff room only has one table
- Currently there is not a space to have all staff together
- Workroom is not central
- Need adult restrooms farther out on the campus
- Marquis is ugly letter board, too low

***5. Technology***

- Electronics should be hung on ceiling to save space
- It's important to be able to see computer screens
- Computer lab is too small
- Phone system is bad

Crittenden M.S. Committee Suggestions

- Wireless is required
- Would like classrooms setup with computers around
- Smart boards are desired
- Need document camera

***6. Outdoor spaces***

- Existing field does not have a track – currently use Cuesta Park
- Would like to have a ball wall, tennis courts, and bleachers
- Lack of supervision on outdoor spaces
- More benches and tables – around trees, closer to basketball courts, between grass and basketball courts
- Like to have an amphitheatre with steps, grass, and shade
- Glare on concrete
- Should have more shade
- Need more seating areas

***7. Community Use***

- Would like to have more performances – community dinners, jazz bands

***8. Campus Environment***

- Visual connection to students
- Should have fencing around core campus
- Non-flat roofs are accessible to students
- Parking should have legal size slots

## Graham Middle School

Committee suggestions and concerns brought up at the Steering meeting were recorded and categorized as follows. Though it is not feasible to respond to all suggestions, most have been taken into consideration in developing recommendations within this report.

1. ***General Education***
    - Need connecting doors between classrooms, should have shared breakout space/storage
    - Need larger Classrooms for 7th and 8th grades
    - Doors to lock from inside
    - Equity in classrooms with furniture
    - Like to display student work outside classrooms – add bulletin boards
    - Double pane windows that are operable and easy to open

2. ***Special Programs (Science, Art, Music…)***
    - Science wing – need table to use as desk and also lab tables
    - Provide garden area for science
    - Provide three rooms with connection doors for Tween Time (after school city program)
    - Need more restrooms by preschool
    - Need a performing arts theater – 25% of students are in band
    - Band room is not efficient – too many separate rooms that are not efficient
    - More storage for band and performing arts
    - Need performing arts practice rooms which are more user friendly

3. ***Student Support (MUR, Library, Cafeteria, Gym)***
    - MUR metal chairs are bad
    - Bookshelves in library should be taller
    - Small rooms off of the library are not useful
    - Electric doors for student dining are only halfway done
    - Cafeteria benches need to be replaced – metal gets too cold
    - Cafeteria food service needs to be redone – food line backs up, more registers, more access to input foodservice
    - More energy efficient appliances
    - Currently have two lunch sessions, still too crowded
    - Acoustics in sports pavilion are very bad

***4. Administration & teacher support***

- Mailboxes and Staff Lounge should be connected to Office
- Should have separate public restrooms so staff restroom isn't used
- Office more open/inviting – front counter/staff elevated
- Detention room should be off of office but attached
- Do Not need glass interior doors in offices (for private rooms)
- Display board is needed
- Like to have a LCD sign out at front
- Add a conference room
- Back office needs glazing for safety
- Larger nurse's office with better visibility of the bed
- Staff dining area not big enough and outdated – need more outdoor eating space

***5. Technology***

- Should update phones and paging system
- Like to have wireless access everywhere
- Update computer labs
- Smart boards are desired
- Should have document cameras which are ceiling mounted

***6. Outdoor spaces***

- Should have 2-3 handball courts
- Like to have an outdoor instruction area

***7. Community Use***

- MUR is too small for community (even 6$^{th}$ grader parents did not fit)
- Nice that it is located in community

***8. Campus Environment***

- Add restrooms close to rooms 19, 23 and at MUR
- Provide automatic fixtures in restrooms
- Security cameras and perimeter cameras to be viewed by office staff
- Codes to access doors/no keys
- Provide skateboard/scooter racks
- Larger signs at track displaying school hours/events
- Currently campus is not secure from public
- Alarm is too complicated for staff off hours
- Need to have signage to pull forward at drop-off
- More storage for custodian
- Portables need to be replaced with site built – old, creaky, smell

Graham E.S. Committee Suggestions

- HVAC upgrade needed
- Add security cameras at bike racks
- Unfriendly sterile atmosphere, would like more charm, charisma, and landscaping
- Provide more safety signage which are easy to see (i.e. tobacco free)
- Provide shutters for windows to be used in lock down situations
- Automatic gate at front to control access/speed

## Huff Elementary School

Committee suggestions and concerns brought up at the steering meeting were recorded and categorized as follows. Though it is not feasible to respond to all suggestions, most have been taken into consideration in developing recommendations within this report.

1. ***General Education***
   - More storage—cabinet style
   - Add double white boards
   - More space for alternative configurations
   - More independent work
   - Currently have no prep space is classes
   - Need to have individual desks as well as group spaces
   - Breakout rooms – currently use tables between buildings as breakout rooms
   - Would like connecting rooms & team teaching
   - Hooks/cubbies for backpacks in classroom
   - Kindergarten rooms to be like Monta Loma E.S. – play areas, connected, etc, more kindergarten specifics

2. ***Special Programs (Science, Art, Music…)***
   - Need a Science lab
   - Art & social studies share a room - need separate rooms
   - Art class is also used for after school programs
   - Need chorus risers/ music
   - Provide internal music storage at MUR
   - Drama class takes place in MUR
   - Intervention rooms currently house 3-4 kids max + teacher, should be able to house 5- 6 students
   - Provide a broadcasting studio, link in classrooms
   - Need special education classrooms

3. ***Student Support (MUR, Library)***
   - Partition walls in MUR are not sound proof
   - Storage rooms at MUR are used as classrooms
   - Some programs take place in MUR
   - MUR is used for before and after school programs
   - Not able to leave scenery on stage
   - MUR is not big enough for whole school assemblies
   - Desire outdoor space with perimeter speakers and stage
   - kids eat in classroom when raining
   - currently MUR can be divided
   - Need a library with media center & parent center
4. ***Administration & teacher support***
   - Require PTA rooms, work rooms, and meeting rooms with space for personal items
   - Provide closed storages and lockable file storage

Huff E.S. Committee Suggestions

- Front of office should be big, welcoming, and professional
- Should have one-on-one counseling rooms
- Need separate restrooms for parent volunteers (one restroom currently used for storage)
- Need storage for paper, furniture, etc.
- Add display cases

***5. Technology***

- Would like wireless access
- Provide projector on ceilings or center plug in classrooms
- Elmo—3D presenters work
- Smart Boards are desired in classrooms
- Currently have one computer lab, Student integration w/tech is only in the computer room
- Should have computer centers in classrooms (5-6 Computers), and laptop with wireless connection in classrooms

***6. Outdoor spaces***

- Before and after school programs take place outside

***7. Community Use***

- Would like to have community events take place both in MUR and outside

***8. Campus Environment***

- There is no clear heart of campus
- Entry is hard to find
- Provide shade for lunch and overall more shade outside
- Needs a sports room to store equipment
- Permanent soccer nets are desired
- Garden to be more central
- Provide separate restrooms for fields
- Courtyards are used as breakout
- Would like color coding of paving
- Kindergarten playground should be separate
- Currently there is a conflict during drop off, bus loading, and recycling pick up
- Should have permanent garbage/recycling areas
- Need more parking for parent volunteers
- Separate parking from kids and perimeter, parking lot should have one way in and one way out
- campus is not secure—should be more controlled
- Security cameras—especially for far corner near portables
- Fencing in emergency area for evacuation
- Art in Architecture

## Landels Elementary School

Committee suggestions and concerns brought up at the steering meeting were recorded and categorized as follows. Though it is not feasible to respond to all suggestions, most have been taken into consideration in developing recommendations within this report.

### *9. General Education*

- Need restroom in all kindergarten classrooms
- Provide more classrooms (are currently at capacity)
- Replace modulars with site built, HVAC is too noisy, cannot keep doors open, and there is no storage
- Storage rooms in permanent classrooms are different sizes
- Drawers don't come out, debris and papers falls in back, cannot be cleaned out and the drawers cannot be shut
- Need space to display student work
- Add bulletin boards outside doors
- Provide computer areas in rooms
- More tackable surfaces rather than plywood walls
- More places to hang work
- Toilets have Low-flow flushes, replace
- Need an unified area for each grade level (not pod)

### *10. Special Programs (Science, Art, Music…)*

- Should have dedicated storage for after school programs
- Provide pre-kindergarten facilities
- Special needs kids need their own classroom
- Speech and language require break out rooms
- Provide daycare for teachers and parents
- Add a dedicated art room
- Expand preschool
- Expand music/art/science rooms
- Expand CHAC room
- Expand foreign language
- Expand PE K-5
- Expand staff support for special needs students
- Expand student council
- Expand after-school enrichment
- Expand affordable child care
- Expand more advanced music programs
- After school reading program
- After school sports clubs

Landels E.S. Committee Suggestions

***11. Student Support (MUR, Library)***

- Gathering space for entire school (enclosed)
- Need a large flexible space, multipurpose is too small
- Require indoor eating facilities for everyday lunch
- MUR functions: end of year play, landelsburg, PE, music assemblies, parent meeting at beginning and end of year, promotion breakfast, awards assembly, back-to-school night, cafeteria, bawsi girls, adult ed, kindergarten preparation evenings, plays, opera, traffic safety, bullying lunch room, open house art show
- MUR needs: more seating, raised platform stage, whole school assembly, speaker system and TV, be able to use entire space for performances, indoor PE
- Should take out the junk in the MUR to use all floor space
- Library is unorganized
- Media center should be in library
- Library needs more computers for AR tests and AR books
- Currently kindergartners cannot use the library
- Library is not inviting
- Library needs lounging furniture (couch, pillow chairs)
- Library needs improved climate control (it is too cold)
- Should have books on tapes for younger kids
- Library needs reading nooks
- Library needs full-time librarian

***12. Administration & teacher support***

- Add rooms to be used as conference rooms, offices, PTA meetings, etc.
- Teachers data center to work
- Separate staff and workroom
- Workroom requires storage for all supplies
- Post in staff room affects assembly and visibility
- More conference rooms
- Provide grade level specific storage for shared materials
- Need a room for in-house suspension
- Expand private conference room
- Add PTA storage room, not attached to school
- Need a full or part-time nurse
- Work room/book room is well organized
- Work room is too small – need all supplies in one room
- Lounge has old ineffective appliances, not enough space, needs more, new appliances
- Electrical circuits keep blowing out in workroom
- Climate control
- Need more die-cuts
- Machines in workroom don't work
- Need separate area for volunteers
- Need poster machine
- Separate copy room

- Bigger workroom
- Change side teacher parking to vertical spaces instead of horizontal spaces
- More staff designated parking

***13. Technology***

- Instructional technology – similar area in all classrooms: media center, wireless, smart boards, 4-6 computers, printer, multi-media, projection system with screen
- Update computer lab
- Full time computer lab tech and teacher for computers
- Individual classroom technology carts
- Smart boards are desired

***14. Outdoor spaces***

- Provide indigenous planting, less grass due to allergies/resources
- Outdoor assembly space with raised stage
- Should have covered eating area
- Add walkway from kndergarten rooms to prking lot
- More variety in play equipment
- Provide irrigation in gardens
- Would like more planting areas
- Trees need to be trimmed, they drip on cars
- Have messy interior courtyard between 1st and 2nd side wings due to trees
- Metal picnic tables get hot and cause glare and are cold in winter – wood preferred
- The 4/5 playground lacks activities – too many students – a larger play structure is needed
- Add large flower containers
- Game/recreation space for before/after school
- Shade covers over playground structures and eating areas
- Trim trees by MUR

***15. Community Use***

- Potential community uses: Library, Computer Lab, Community Learning Center, Parent Classes/Programs
- Senior Reader Room
- Adult education – literacy, ESL/SSL, how to work with your child
- Community festivities take place at MUR
- Library to handle community read meet for book talks
- Potential library uses: English and Spanish language classes for parents, literacy classes, GATE classes, parent reader volunteers

Landels E.S. Committee Suggestions

***16. Campus Environment***

- Provide occupancy sensors for lighting
- Would like to have solar schools program
- Demand response peak choice program
- Cool roof
- Parent waiting area at front and back of campus
- Like open campus, don't want it enclosed
- Upgrade plumbing
- Maintain open space
- Drop-off and pick-up are tough. Currently there is only one location
- Should have incentive program for bike riding
- Informal gathering space
- Should have visibility to all gathering spaces
- Storage for Physical Education equipment to stay organized
- Separate trail from campus by fence
- Add more parking stalls
- Utilize solar panels
- Prefer cleaner campus and classrooms
- Parking lot is dangerous at pick-up and drop-off time
- Recycling

## Monta Loma Elementary School

Committee suggestions and concerns brought up at the steering meeting were recorded and categorized as follows. Though it is not feasible to respond to all suggestions, most have been taken into consideration in developing recommendations within this report.

1. ***General Education***
   - New buildings are great; casework in newer Building 8 is not holding up – older stuff is better quality
   - Inconsistency in class sizes but like larger rooms for 4th and 5th grades
   - Classrooms with more flexibility
   - Need more space
   - Older Classrooms have too many windows – sliding doors are not functional
   - Kindergarten bulletin/white board – would like floor to ceiling
   - Direct sunlight through clerestories cause glare in many rooms
   - More wall space in classrooms, more storage, less counters
   - More white boards and bulletin boards
   - Too many windows, don't want angled windows they are too difficult to shade
   - Safety regarding classroom access are biggest concern
   - Like sliding doors but they don't work or lock well

2. ***Special Programs (Science, Art, Music…)***
   - Science classrooms are not used as science rooms so sinks and counters take too much space – add classrooms so science can be utilized only for science
   - Need more breakout space– presently have to switch around
   - There is not enough storage for supplies, art, etc.

3. ***Student Support (MUR, Library)***
   - Need more tables in MUR to accommodate three lunch periods
   - On rainy days kids are here 1 hour before school (bussed in) and can only go into MUR – too crowded
   - Like the library
   - Library conference room smells when hot

4. ***Administration & teacher support***
   - Need two counters in admin instead of one
   - Lockable storage for school records is needed
   - Connection of staff room to office would be better
   - Staff room is not big enough, and it's too accessible – "fish bowl"
   - Like existing color and aesthetics but office is not functional
   - Community room is too small and doesn't function well
   - Location of office is too remote from campus – cannot monitor site, there are lots of places for the kids to hide
   - Counter needed in staff restrooms

***5. Technology***

- Technology is outdated, wiring and WiFi doesn't work, no CAT5
- Computer labs – would like two or one large with adequate bandwidth
- Would like computers in classrooms
- Internet in kindergarten doesn't work
- Wiring is bad, clock bell speaker system doesn't work
- IDFs take up wall space in classroom
- Paging system to individual classrooms, more flexible, should be located in more secure location

***6. Outdoor spaces***

- Need covered outdoors space/lunch area
- Outdoor lunch space apart from play areas
- Layout of blacktop re-configured for separate age groups, would like separate play structures
- Three shifts needed for kindergarten playground – too small
- Downspouts flood walkways, gutters get backed up and drip
- Courtyards are difficult to use due to overwatering, lack of seating space, and proximity to other classrooms
- Need an enclosed outdoor seating area for staff

***7. Community Use***

- More congregation spaces would encourage more community activities – currently there is not enough space
- Daycare/Preschool needed, involve community
- Add a community garden

***8. Campus Environment***

- Grade level clusters work well
- Nowhere to get entire school together except outside
- Playground is difficult to access
- Too many access points to site – safety issue
- Park paths can only be accessed by coming through campus
- Parking is problem, especially for parents/volunteers
- Pick-up and Drop-off doesn't work, it is dangerous
- Bus drop-off doesn't work
- Want secured campus
- Dislike chains and padlocks at gates, fencing is too institutional
- HVAC is too loud and location outside door is not good
- Glare at windows is bad
- There are no shades on any windows – too visible, can't hide
- Bathrooms need upgrade, provide warm water

Monta Loma E.S. Committee Suggestions

- add adequate restrooms for playground (outdoor play area)
- Drive thru at kindergarten is not utilized (too narrow for buses) – would be better as parking
- Fountain is not in visible location
- More green design and programs
- Roofs leak in older buildings
- Like grade level classes grouped together

## Slater School

Committee suggestions and concerns brought up at the steering meeting were recorded and categorized as follows. Though it is not feasible to respond to all suggestions, most have been taken into consideration in developing recommendations within this report.

1. ***General Education***
   - Large rooms work well, but more needed
   - More bathrooms
   - Child size fixtures in restrooms
   - Special education needs more classroom space
   - Combined classroom space for both programs to share
   - Room 28 portion carpeted
   - Cooking space for kid involvement (incorporate into staff lounge)
   - Flexible space needed – dividers/partition
   - Built-in cabinets
   - White boards not needed for preschoolers
   - OT need open storage, deep and full height for equipment, pillows, etc.
   - Special education – not all classrooms have hot water
   - Hot water not needed in child restrooms
   - Dishwasher to eliminate paper waste
   - OT therapy motor equipment
   - Hooks on walls for motor OT purposes
   - Lofts
   - Sensory motor loft

2. ***Special Programs (Science, Art, Music...)***
   - Music, art, science needed at Slater "space to collaborate"

3. ***Student Support (MUR, Library)***
   - n/a

4. ***Administration & Teacher Support***
   - Staff lounge
   - Conference room/staff meetings/training/parent meetings
   - Hot water in lounge
   - Enclosed extension display cases for announcements

5. ***Technology***
   - Phones problematic
   - Wireless internet
   - Translation software

- Projector and screen to hook up PowerPoint for training
- Room to room intercom

***6. Outdoor Spaces***

- Storage shed for outdoor equipment, bikes, swimming pools, etc
- Shade outdoor play areas (all sites)
- Outdoor seating
- Drinking fountain outside
- Outside trash cans not emptied from weekend parks
- Hose bib/valve at play area for water play
- Garden space here and at Graham
- Trampoline
- Storage shed with shelves for additional items
- Sand removed or raised seat wall to help maintain/Special Ed do not want sand/Headstart needs sand for sand and water play
- Sloped bike path

***7. Community Use***

- n/a

***8. Campus Environment***

- Parking close works
- Enclosed site
- Inadequate play areas
- Small, doesn't work for either program
- Not on school list/difficult to locate for parents/Preschool
- Program not included on site
- AC units don't function well/don't react fast enough

## Theuerkauf Elementary School

Committee suggestions and concerns brought up at the steering meeting were recorded and categorized as follows. Though it is not feasible to respond to all suggestions, most have been taken into consideration in developing recommendations within this report

1. ***General Education***
    - Electric wires through white board is cumbersome, would prefer floor or base outlets
    - Kinder white boards are too high
    - More outlets in classroom on window side
    - Provide backpack hooks outside
    - Need another kinder room
    - Prefer double-pane windows
    - Don't like wire molds
    - HVAC units are noisy
    - Provide more storage, teaching walls are too deep to utilize
    - More whiteboards (two sides of the room)
    - Kinder counters are too high
    - Kinder toilets are too small
    - There is wasted space above casework/teaching walls
    - Heat doesn't circulate in room 15 (15-18) too hot one side, too cold other side
    - Kinder rooms don't have enough built in storage
    - Like to have more small group rooms
    - Need wall space for hanging posters

2. ***Special Programs (Science, Art, Music…)***
    - Like current art program
    - Need a dedicated space for after school programs
    - Band room (soundproof) performing arts
    - None of the classrooms have hot water, science should have hot water.

3. ***Student Support (MUR, Library)***
    - Library is welcoming and spacious
    - Stage needs lighting and back curtain access from storage to stage
    - "Legs" curtains at side of stage/partition large enough for student body and parents
    - Currently have 3 lunch periods
    - Outdoor amphitheatre – MUR not cafeteria
    - Need dedicated room for PE (MUR is used for lunch)
    - Would like covered outdoor eating for half of students
    - Need a sound system in MUR
    - Library bookshelves are too high

Theuerkauf E.S. Committee Suggestions

4. ***Administration & teacher support***
    - Currently using classroom 3 as staff room, actual staff room doesn't function well
    - Office should be more centrally located, utilize space in front
    - Need a bigger storage area for grade level books
    - Need a parent workroom
    - A 2 story staff lounge would be nice

5. ***Technology***
    - Would like to have multi-media lab with computers (no computer lab)
    - Add wireless internet
    - Ceiling mounted projectors are preferred

6. ***Outdoor spaces***
    - Should have covered walk from office to MUR to library
    - Fence exits should have lights, can't see locks
    - Landscaped areas are used as learning environments
    - More outdoor seating
    - More water fountains – by library and restrooms
    - Add planters/garden for each grade level
    - Behind kinder outdoor area needs shade, seating, and flat grassy area
    - More seating area behind back stop
    - Need a ball wall
    - More sports equipment
    - Drainage at bridge is a problem

7. ***Community Use***
    - n/a

8. ***Campus Environment***
    - Good circulation through campus
    - Secured campus – good
    - Colors are good
    - Kinders are too far from office

## District Office Needs Assessment Questionnaire

General

1. What is the BEST thing about this facility?
2. What is the greatest current need of this facility?
3. What is the greatest need in the next ten years?
4. What spaces should be provided? To what size (i.e. number of staff)?
5. What spaces aren't working and could be considered for elimination?

Space allocation

6. How many rooms are being used for offices/conferences? How do these rooms work? What is the part that works the best? What is the part that works the worst? How would you change these rooms to work better?
7. What elements would you like to provide, but can't because of a lack of an appropriate space?
8. Are there any flex spaces (i.e., two or more functions using the same space at different time)? How is this working? Are there other functions that could utilize flex space?
9. How do you see the function and arrangement of administration changing in the next ten years? What spaces would be required to accommodate them?
10. What functions take place in the Board Room/Building? What is the part that works the best? What is the part that works the worst? How would you change these rooms to work better?
11. What can't be done in the Board Room/Building that you would like to do?
12. Where does staff eat lunch? Is this adequate? Does it work well? If not how would you change it?
13. How do the restrooms work? What is the part that works the best? What is the part that works the worst? How would you change these rooms to work better?

Support

14. How many rooms are being used for support (workrooms, lounges, training facilities) what is the part that works the best? What is the part that works the worst? How would you change these rooms to work better? (list each type of space separately)
15. What staff support functions would you like to provide, but can't because of a lack of an appropriate space? Why do you want to provide these functions?

Community Use Facilities

16. How many rooms are being used for community use functions? What is the part that works the best? What is the part that works the worst? How would you change these rooms to work better? (list each type of space separately)
17. What community use functions would you like to provide, but can't because of a lack of an appropriate space? Why do you want to provide these functions?

## District Office Committee Suggestions

Committee suggestions and concerns brought up at the steering meeting were recorded and categorized as follows. Though it is not feasible to respond to all suggestions, most have been taken into consideration in developing recommendations within this report.

### *1. General*

- Need more electrical outlets at each station, currently some of the cubical partitions are on top of cords.
- Acoustical problems throughout the buildings- everyone can hear everything going on around the building.
- Consider asbestos removal.
- Clean all mechanical ducts
- Replace carpet
- Current alarm is set to code out at 2 places but it needs to be updated so that one unit can control both buildings.
- Would like to have one building combining all departments.

### *2. Office/ Cubicles*

- Need flex cubical spaces (volunteers)
- No privacy in offices - can hear everything.
- HR/ Payroll needs an office – one on one area.
- More storage – cabinet/ closet type storage (not storage rooms or buildings)
- Better acoustics/ insulation.
- Certain cubicles require sound proofing.

### *3. Conference Rooms*

- Need at least 2 conference rooms; one to accommodate smaller groups and another to accommodate 25 people.
- Can be used for interviews.
- Would like windows, natural light. Currently poor lighting (fluorescent).
- Need projector. Limited seating space when projection on screen.

### *4. Lobby*

- Dedicated station for receptionist to do registration (when privacy is required)
- Larger waiting area required, gets cramped during registrations.
- Need lobby to accommodate 20 people, expand lobby.
- Sound echoes in this area.

***5. Board Room***

- Boardroom is used for registrar voting twice a year.
- Need a more flexible board table
- Currently can accommodate about 50 people standing.
- It's used for teacher training sessions. (for about 60 teachers)
- During registration parents stand in line outside (aprox. 300 parents)
- Due to the adjacent offices, the board rooms cannot be used for private meetings such as interviews.
- Provide storage for chart stands and tables.
- Need more comfortable chairs.
- Room for closed session meetings which is not shared with other functions.

***6. Restrooms***

- Are not happy about restrooms located near staff lounge.
- Would like to have a separate restroom for public use close to the lobby.
- Public going through all departments/ lounge to get to restrooms is distracting.
- Relocate toilet seat cover dispenser. (it's currently on partition walls, when empty can see through)
- Automatic paper towel, water & flush.
- Existing toilet has low flow flush.
- Plumbing issues in the restrooms, when exhaust fan is turned on, sewer odor is worst.
- Central elec. panel is in men's restroom. Relocate.

***7. Workroom***

- Would like a bigger workroom,
- Better ventilation (smell of toner machines)
- Larger work areas, larger counter space
- Mailroom: Space to put larger boxes as shipments come in.

***8. Staff Lounge***

- Not enough room for staff to eat. Only about 8 people can sit comfortably simultaneously.
- Would like to see more color in this room.
- It's become a "walk-through"
- It gets very noisy with public going through and using restrooms.
- Prefer a lounge like Castro E.S.
- Outdoor eating is desired.
- Provide new appliances.

***9. Campus Environment***

- Would like security gates. Currently gates are left open.
- Not enough staff and parent parking, especially during dismissal hours.
- Provide outdoor benches/ tables to be used as waiting area for public.
- Entrance to be more attractive and inviting.
- Provide display space outside entry.
- Water fountain would be nice.
- Covered walkways to other offices or one building combining all offices/ departments.

## District Kitchen and Corporation Yards Committee Suggestions

Committee suggestions and concerns brought up at the steering meeting were recorded and categorized as follows. Though it is not feasible to respond to all suggestions, most have been taken into consideration in developing recommendations within this report

### *1. District Kitchens*

- Need permanent computer stations at kitchens at every school
- Need staff room at each foodservice (currently none at Castro)
- Need microwaves at each foodservice
- Prefer square floor plan foodservice, Theuerkauf is too narrow
- Should have data outlets – currently main kitchen is wired through ceiling

### *2. District Corporation & Transportation Yards*

- Need C&G fueling station
- There is no drainage at the transportation yard, swales collect water
- Transportation yard paving is in poor condition
- Need more space for parking buses – access is difficult in current yard
- Graham is too small for transportation yard, and it is surrounded by residential area so noise has been an issue in the past
- Office space is adequate at both sites
- Older building at Crittenden is in poor condition – there is no fire blocking, it's a fire hazard
- Lighting should be modernized at the warehouses
- Insufficient warehouse space at Graham – trailers used, furniture piled on pavement
- Paving at Graham was recently updated – in good condition
- Need extra skylights at Graham garden storage
- Mechanical roll-up doors would be nice – only one mechanical roll up door at new building at Graham – the rest are all manual

# Appendix 2

# Applicable Codes, Standards and Regulating Organizations

**ADA,** *Americans with Disabilities Act of 1990*, prohibits discrimination against people with disabilities in employment, transportation, public accommodation, communications, and governmental activities. It is also referred to as "accessibility" when discussed in relation to public accommodation, and necessary provisions are covered in the current addition of California Building Code (CBC).

**ANSI**, *American National Standards Institute*, oversees creation, promulgation and use of thousands of norms and guidelines that directly impact businesses in nearly every sector. Its goal is to promote and facilitate voluntary consensus standards and conformity assessment systems, and safeguarding their integrity.

**ASCE**, *American Society of Civil Engineers* is ANSI accredited standards development organization that produces consensus standards under the direction of its Codes and Standards Committee.

**ASCE 31-03**, *American Society of Civil Engineers "Seismic Evaluation of Existing Buildings",* defines the life safety performance objective as building performance that includes significant damage to both structural and nonstructural components during a design earthquake, though at least some margin against either partial or total structural collapse remains. Injuries may occur, but the level of risk for life-threatening injury and entrapment is low. For more detail, please see full structural report in Appendix C.

**ASHRAE**, *American Society of Heating and Air Conditioning Engineers*, is a technical society in the fields of heating, ventilation, air conditioning and refrigeration (HVAC&R) with a goal of promoting sustainable practices through research, standards writing, publishing and continuing education.

**ASTM**, *American Societies for Testing Materials*, is one of the largest voluntary standards development organizations in the world and is a trusted source for technical standards for materials, products, systems, and services. Known for their high technical quality and market relevancy, ASTM International standards have an important role in the information infrastructure that guides design, manufacturing and trade in the global economy.

**BICSI**, *Building Industry Consulting Services International*, is a professional association supporting the information transport systems (ITS) industry. ITS covers the spectrum of voice, data, electronic safety & security, and audio & video technologies. It encompasses the design, integration and installation of pathways, spaces, fiber- and copper-based distribution systems, wireless-based systems and infrastructure that supports the transportation of information and associated signaling between and among communications and information gathering devices.

**California Education Code** contains the regulations that govern education in California. It is composed of 69 parts, including Education Programs, School Bonds, School Facilities, State Educational Agencies (State Board of Education), Local Educational Agencies, School Operations, Special Education Programs, Experimental School Programs, etc.

**California State Fire Marshal (SFM)** has a wide variety of fire safety responsibilities including regulating buildings in which people live, congregate, or are confined, by controlling substances and products which may cause injuries, death and destruction by fire, by regulating hazardous liquid pipelines, by reviewing regulations and building standards, and by providing training and education in fire protection methods and responsibilities.

**CBC**, *California Building Code*, current edition 2007, contains general building design and construction requirements relating to fire and life safety, structural safety, and access compliance. CBC provisions provide minimum standards to safeguard life or limb, health, property and public welfare by regulating and controlling the design, construction, quality of materials, use and occupancy, location and maintenance of all buildings and structures and certain equipment. 2007 CBC is pre-assembled with the 2006 International Building Code (IBC) with necessary California amendments.

**CCR**, *California Code of Regulations*, is the official compilation and publication of the regulations adopted, amended and repealed by state agencies pursuant to the Administrative Procedure Act (APA). Properly adopted regulations that have been filed with the current Secretary of State have the force of law. For more information on particular applicable sections, see **Title 5**, *California Education Code*, and **Title 24**, *California Building Standards Code*.

**CDE**, *California Department of Education*, oversees the state's diverse and dynamic public school system. The CDE is responsible for enforcing education law and regulations and for continuing to reform and improve public elementary school programs, secondary school programs, adult education, some preschool programs, and child care programs.

**California Energy Code**, current edition 2007, contains energy conservation standards applicable to all residential and non-residential buildings throughout California, including schools. Please note that the 2007 Edition of the California Energy Code is a republication of the 2005 California Energy Efficiency Standards.

**CEC**, *California Electrical Code*, current edition 2007, contains electrical design and construction standards. Provisions contained in the CEC provide minimum standards to safeguard life or limb, health, property, and public welfare, and to protect against hazards that may arise from the use of electricity by regulating and controlling the design, construction, installation, quality of materials, location and operation of electrical equipment, wiring, and systems. This volume is pre-assembled with the 2005 Edition of the National Electrical Code (NEC) of the National Fire Protection Association (NFPA) with necessary California amendments.

**CHPS**, *Collaborative for High Performance Schools* facilitates the design, construction and operation of high performance schools: environments that are not only energy and resource efficient, but also healthy, comfortable, well lit, and containing the amenities for a quality education.

## Applicable Codes, Standards and Regulating Organizations

**CMC**, *California Mechanical Code*, current edition 2007, contains mechanical design and construction standards. Provisions contained in the CMC provide minimum standards to safeguard life or limb, health, property and public welfare by regulating and controlling the design, construction, installation, quality of materials, location, operation, and maintenance or use of heating, ventilating, cooling, refrigeration systems, incinerators and other miscellaneous heat-producing appliances. This code is pre-assembled with the 2006 Edition of the Uniform Mechanical Code of the International Association of Mechanical and Plumbing Officials (IAPMO) with necessary California amendments.

**CPC**, *California Plumbing Code*, current edition 2007, contains plumbing design and construction standards. Provisions contained in the CPC provide minimum standards to safeguard life or limb, health, property and public welfare. It also protects against hazards that may arise from the use of plumbing piping and systems by regulating and controlling the design, construction, installation, quality of materials, location and operation of plumbing piping systems within the State of California. This code is pre-assembled with the 2006 Edition of the Uniform Plumbing Code of the International Association of Plumbing and Mechanical Officials (IAPMO) with necessary California amendments.

**DSA**, *Division of State Architect*, has a primary role in State government to ensure California's K-12 schools and community colleges are seismically safe and accessible to all. It fulfills this role by reviewing construction project plans for structural safety, fire and life safety, and accessibility. In addition to reviewing project plans, DSA provides oversight of construction and testing labs.

**DSA Universal Access** Compliance section provides access-compliance services for state-funded construction and develops and maintains the accessibility standards and codes used in public and private buildings throughout California.

**EIA**, *Electronic Industries Alliance*, is accredited by ANSI and provides a forum for industry to develop standards and publication in electronic components, consumer electronics, electronic information, telecommunications, and Internet security.

**ETL**, *Electrical Testing Laboratories*, specializes in electrical product safety testing, EMC testing, and benchmark performance testing and are among the industry leaders in their scope of testing and accreditations. ETL issue global certification marks as proof of compliance to market or industry standards. Some of the marks they issue include the ETL Listed mark and Warnock Hersey mark for North America, the S Mark for Europe, the GS Mark for Germany, NOM in Mexico, and more.

**FEMA**, *Federal Emergency Management Agency*, has the primary mission to reduce the loss of life and property and protect the Nation from all hazards, including natural disaster, acts of terrorism, and other man-made disasters, by leading and supporting the nation in a risk-based, comprehensive emergency management system of preparedness, protection, response, recovery, and mitigation.

**FEMA-2 Analysis**, *HAZUS-MH Analysis Level* 2, provides analysis based on the level of effort and expertise employed by the user, Level 2 being second of three possible levels. It is an estimate of earthquake, flood, and hurricane wind losses produced by including detailed information on local hazard condition and/or by replacing the national default

inventories (used for Level 1 basic estimate) with more accurate local inventories of buildings, essential facilities and other infrastructure.

**HAZUS-MH**, *Hazards U.S. Multi-Hazard*, is nationally applicable standardized methodology that estimates potential losses from earthquakes, hurricane winds, and floods. It was developed by FEMA under contract with National Institute of Building Sciences (NIBS).

**ISO**, *International Standards Organization*, is the world's largest developer and publisher of International Standards. ISO is a network of the national standards institutes of 161 countries, one member per country, with a Central Secretariat in Geneva, Switzerland, that coordinates the system. ISO is a non-governmental organization that forms a bridge between the public and private sectors. On the one hand, many of its member institutes are part of the governmental structure of their countries, or are mandated by their government. On the other hand, other members have their roots uniquely in the private sector, having been set up by national partnerships of industry associations. Therefore, ISO enables a consensus to be reached on solutions that meet both the requirements of business and the broader needs of society.

**LEED**, *Leadership in Energy and Environmental Design*, is an internationally recognized certification system that measures how well a building or community performs in energy savings, water efficiency, CO2 emissions reduction, improved indoor environmental quality, and stewardship of resources and sensitivity to their impacts. Developed by the U.S. Green Building Council (USGBC), LEED provides building owners and operators a concise framework for identifying and implementing practical and measurable green building design, construction, operations and maintenance solutions.

**NEMA**, *National Electrical Manufacturer's Association*, is the trade association of choice for the electrical manufacturing industry. Founded in 1926 and headquartered near Washington, D.C., its approximately 450 member companies manufacture products used in the generation, transmission and distribution, control, and end-use of electricity. These products are used in utility, medical imaging, industrial, commercial, institutional, and residential applications.

**NFPA 72**, *Life Fire Safety*, sets requirement for fire life safety in protection of human life and property base on the construction type and type of fire alarm system to be used. It regulates type, quantity and location of initiating devices and notification devices for proper coverage of protected spaces.

**OPSC**, *California Office of Public School Construction* implements and administers the School Facility Program and other programs of the State Allocation Board (SAB). The OPSC is also charged with the responsibility of verifying that all applicant school districts meet specific criteria based on the type of funding which is being requested and prepares regulations, policies and procedures that carry out the mandates of the SAB.

**OPSC Facility Inspection Tool (FIT)** is used to determine if a school facility is in "good repair" as defined by Education Code (EC) Section 17002 (d)(1) and to rate the facility pursuant to EC Section 17002(d)(2). The tool is designed to identify areas of a school

site that are in need of repair based upon a visual inspection of the site. In addition, the EC specifies the tool should not be used to require capital enhancements beyond the standards to which the facility was designed and constructed. Good repair is defined to mean that the facility is maintained in a manner that ensures that it is clean, safe, and functional.

**SMPTE**, *Society of Motion Picture and Television Engineers*, is the leading technical society for the motion imaging industry. SMPTE was founded in 1916 to advance theory and development in the motion imaging field. Today, SMPTE publishes ANSI-approved Standards, Recommended Practices, and Engineering Guidelines, along with the highly regarded SMPTE Journal and its peer-reviewed technical papers. SMPTE holds conferences and local Section meetings to bring people and ideas together, allowing for useful interaction and information exchange.

**TIA**, *Telecommunications Industry Association*, represents providers of communication and information technology products and services for the global marketplace through its core competencies in standards developments, domestic and international advocacy, market development and trade promotion products.

**Title 5** *of the California Code of Regulations* that relates to school construction contains the regulations that govern the education in California. Title 5 is organized into divisions containing regulations of state agencies including Department of Education (CDE).

**Title 22** *of the California Code of Regulations*, Division 12 Chapter 1 is Child Care Center General Licensing Requirements manual containing regulations adopted by the California Department of Social Services (CDSS) for the governance of its agents, licensees, and/or beneficiaries, regulations adopted by other State Departments affecting CDSS programs, statues from appropriated Codes which govern CDSS programs, court decisions, and operational standards by which CDSS staff will evaluate performance within CDSS programs.

**Title 24** *of the California Code of Regulations*, known as the California Building Standards Code or just “Title 24” contains the regulations that govern the construction of buildings in California. Title 24 is composed of 12 parts, including California Building Code (CBC), California Electrical Code (CEC), California Mechanical Code (CMC), California Plumbing Code (CPC) and California Energy Code.

**UL,** *Underwriters’ Laboratories*, is an independent product safety certification organization that has been testing products and writing standards for safety for more than a century. UL evaluates more than 19,000 types of products, components, materials and systems annually with 20 billion UL Marks appearing on 72,000 manufacturers' products each year.

# Appendix 3

# Mountain View Whisman School District
# Special Programs

## Special Programs

The following Special Programs are offered at various schools throughout the district.

**AR**, *Accelerated Reader Program*, is a Library provided program with a Web component.

**BTB**, *Beyond the Bell*, is a daily, free, supervised program consisting of a homework center, clubs, and recreational activities provided by the Mountain View Whisman School District and City of Mountain View.

**CEL**, *Community-Enhanced Learning*, is a parent participation program designed to support, enhance, and supplement the public education of students. Parents and teachers collaborate to draw on the skills, expertise, and energy of the parents to enrich the classroom and school environment.

**CELDT**, *California English Language Development Test* is a required state test for English language proficiency that must be given to students whose primary language is other than English. The purpose is to identify students who are English Learners in Kindergarten through grade 12, to monitor their progress in learning English, and to document their English proficiency and the schools that administer the test have a program specialist.

**CHAC**, *Community Health Awareness Council*, provides alternatives to self-destructive behavior and helps create healthy lives for the children and families of Mountain View Whisman School District and surrounding communities.

**CSMA**, *Community School of Music and Arts*, provides instrumental music instruction to students. This program is offered as part of the curriculum day. Because it coordinates with the classroom curriculum, the visual and performing arts become an integral, enriching part of a child's education. Children receive weekly hands-on classes and interactive concerts at their school. These programs stimulate critical thinking, curiosity and creativity, as well as develop cultural understanding. These programs are offered on a contractual basis to local school districts and to individual public and private schools.

**ELD***, English Language Development*, program supports students who are not proficient in English to develop the language skills they need to succeed in school.

**EPGY**, *Educational Program for Gifted Youth*, is a web-based, distance-learning program from Stanford that is accessible via Internet at school and at home. The program allows students to proceed through the content at their own pace.

**DI**, *Dual Immersion*, is a program where native English-speaking students and native Spanish-speaking students are united in the same classroom, where they learn both languages while maintaining high academic achievement in core subject areas. The program extends from Kindergarten through 5$^{th}$ grade.

**GATE***, Gifted and Talented Education Program*, is a three-pronged approach to meeting the needs of the GATE students. This approach reflects a working relationship between the district, the schools, and the family.

**German School,** *German International School of Silicon Valley (GISSV),* is a private school with a bilingual (German-English) educational program serving children of all nationalities from Preschool through the 12th grade in the San Francisco Bay Area. Upon graduation, our students earn a German International Abitur and take part in all qualifications and exams needed for an American High School Diploma, qualifying them for acceptance into European and American universities. The GISSV is an active part of a network of 117 German foreign schools worldwide to ensure the highest standards of learning and teaching.

**Intervention**, *Response to Intervention (RTI)*, is a multi-tiered approach to help struggling learners. Students' progress is closely monitored at each stage of intervention to determine the need for further research-based instruction and/or intervention in general education, in special education, or both.

**ISP**, *Independent Study Program (Home School)*, is for those families committed to home schooling their children in order to provide instructional strategies that respond to individual student's needs and learning styles. Through this program, families work in compliance with California State guidelines. ISP provides curriculum, instructional guidance, special enrichment classes and field trips.

**PACT**, *Parent, Child, Teacher*, offers children a developmental education within a compassionate and creative environment. Hands-on experimentation, small group learning, research and guided discovery are all teaching methods used in PACT classrooms. PACT's educational goals are facilitated by a strong collaboration between teachers and parents to help achieve differentiated instruction and allow for low child-to-adult ratios. PACT parents spend two hours per week participating in their children's classrooms.

**Rosetta Stone** is a program to enhance learning for English as a second language. The program focuses on speaking, reading, listening and writing.

**RSP**, *Resource Specialist Program*, provide educational planning, special instruction, tutorial assistance, or other services to exceptional individuals in special programs or regular classrooms.

**SCCOE,** the *Santa Clara County Office of Education*, provides instructional, administrative, human resources, business and technical support services to the county's 31 school districts. By centralizing services such as payroll, employee fingerprinting and Internet connections, the SCCOE helps districts to achieve greater efficiency and cost-savings. SCCOE programs that provide direct instruction include Special Education, Head Start, Parkway, Environmental Education, Regional Occupational Programs and Alternative Schools. An additional program, Migrant Education, supports the special needs of migratory children.

**SDAIE**, *Specially designed academic instruction delivered in English,* is part of requirement for Cross-cultural Language and Academic Development (CLAD) certification for instructors and it presents approaches to content-area instruction for English learners, including lesson adaptation, development, and delivery as suggested by leading theorists and practitioners.

**SDC**, *Special Day Classes*, group students with others who share similar instructional needs. Each class has a credentialed special education teacher and an instructional aide.

**SLP**, *Speech and Language Program*, is specialist provided support for articulation, voice, fluency, and language disorders.

**SST**, *Student Study Team*, is a team of teachers, specialists, and the principal that meets regularly to review students referred by classroom teachers. The team discusses student learning and suggests programs and alternatives for students with special needs and abilities.

**Tween Time** program is partnership between the City's Recreation Division and the Crittenden and Graham Middle Schools to provide after-school programming for students. This program consists of Tween Time Recreation, and a School Homework Study Hall. Tween Time Recreation is staffed by trained Recreation Leaders who create a fun and safe environment for participating in recreation programming on site every day. Tween Time offers activities, sports, crafts, cooking, tournaments, games and more. The School Homework Study Hall is staffed by a school district instructional aide who will enforce a positive, interactive, yet quiet study environment.

**YES Reading,** now called *Reading Partners*, operates Reading Centers at struggling elementary schools in under-served communities where children reading below grade level receive free one-on-one tutoring from volunteers using a structured, research-based curriculum.

**YMCA**, *Young Men's Christian Association*, is a non-profit community service organization with the goal of responding to critical social needs. It is committed to the healthy development of children through individual attention and encouragement, as well as through group participation and sharing. Their goal is to provide children with safe, caring and cheerful environment in which they can make friends, learn new skills (both academic and social), and continue to develop self-esteem. Several MVWSD campuses have YMCA child care and after school programs.

# Appendix 4

# Structural Reports

**HOHBACH-LEWIN, INC.**

***S T R U C T U R A L  E N G I N E E R S***

260 Sheridan Avenue, Suite 150
Palo Alto, CA 94306
Phone:(650) 617-5930
Fax:  (650) 617-5932

# *Qualitative Seismic Analysis*

## *For:*

## *Whisman Unified School District*

## *Mountain View, CA*

October 5, 2009

Project No: 6068B

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## EXECUTIVE SUMMARY

Hohbach-Lewin, Inc., Structural Engineers has performed a qualitative seismic evaluation of Whisman School District's existing building stock which pre-date 1960, some which went trough minor or major remodel. (Re-locatable buildings were not included in this study as they are, if legally approved Field Act certified buildings, generally and predominantly not considered to present a hazard to building occupants during large locally occurring earthquakes.) The subject buildings were evaluated based on achieving a "life safety protection" performance objective. This performance objective represents minimum standards of seismic resistance generally recognized as providing adequate seismic risk protection to building occupants during large locally occurring earthquakes. The deficiencies identified in this report reflect the ASCE 31-03 Tier I results which were confirmed via rough code based analysis and/or a ASCE 31-03 Tier II analysis as applicable.

While potential seismic deficiencies were identified in some of the subject buildings included within this study, in no instance were deficiencies detected of a serious enough nature to warrant immediate action. Where seismic deficiencies were noted, further study beyond the scope of this effort should be undertaken so that identified deficiencies can be confirmed and so that it can be determined if retrofit measures should be implemented in concert with upcoming Modernization projects.

Upon completion of our study, the subject building's lateral force resisting systems were assigned one of the four following *subjective* ratings:

1.0 Good – Buildings receiving this rating appear to posses global lateral force resisting systems and constituent lateral force resisting structural elements which, when subject to large locally occurring seismic events are regarded as providing a level of protection to building's occupants which is generally consistent with performance levels expected from buildings constructed to modern building codes. No significant seismic deficiencies are identified and no further action relating to seismic evaluation and/or retrofit measures are recommended at this time.

2.0 Deficient - Buildings receiving this rating appear to posses global lateral force

resisting systems and constituent lateral force resisting structural elements, which when subjected to large locally occurring seismic events, are regarded as providing a level of protection to building's occupants which is generally consistent with performance levels expected from buildings constructed to the building codes in effect at the time of the building's construction. Potential seismic deficiencies are identified. Further more detailed studies (beyond the scope of this report) are recommended to confirm the presence of identified potential deficiencies and to determine what, if any, seismic retrofit measures should be incorporated into anticipated upcoming Modernization projects.

3.0 Unacceptable – Buildings receiving this rating appear to posses global lateral force resisting systems and constituent lateral force resisting structural elements, which when subjected to large locally occurring seismic events, are regarded as potentially resulting in significant risk to building's occupants. Serious potential seismic deficiencies are identified. It is recommended that further more detailed studies (beyond the scope of this report) be conducted as soon as practicable to validate the suspected presence of identified potential deficiencies and to determine what, if any, immediate actions should be undertaken to ameliorate this situation.

4.0 Dangerous – Buildings receiving this rating are expected to be potentially hazardous to building occupants even if subject to relatively small seismic events which have a relatively high probability of occurrence within relatively short time intervals. Steps should be undertaken to take these buildings out of service as soon as practicable so that mitigation measures can be implemented.

No buildings within this study received a ranking of 4.0. The majority of structures studied received a ranking of 2.0 or better.

| No. | School | Bldg. ID. No. (Reference key plans) | Subjective Rating |
|---|---|---|---|
| 1 | Theuerkauf | A | 1 |
| | | B | 1 |
| | | C | 1 |
| | | D | 1 |
| | | E | 1 |
| | | F | 3 * |
| | | G | 3 |
| | | H | 1 * |
| 2 | Huff | 1 | 1 |
| | | 2 | 3 |
| | | 3 | 2 |
| | | 4 | 2 |
| | | 5 | 2 |
| | | MUR | 3 |
| 3 | Bubb | 1 | 1 |
| | | 2 | 1 |
| | | 3 | 2 |
| | | 4 | 2 |
| | | 5 | 2 |
| | | MUR | 3 |
| 4 | Edith Landel | 1 | 1 * |
| | | 2 | 1 * |
| | | 3 | 2 * |
| | | 4 | 2 * |
| | | 5 | 2 |
| | | MUR | 3 |
| 5 | Graham | 1 | 1 |
| | | 2 | 2 |
| | | 3 | 2 |
| | | 4 | 2 |
| | | 5 | 1 |
| | | 6 | 1 |
| | | 7 | 1 |
| | | 8 | 2 * |
| | | 9 | 3 |
| | | 10 | 2 |
| | | 11 | 2 |
| | | 12 | 1 |
| | | 13 | 1 |
| | | OD | 1 |
| | | WH 1 | 3 * |
| | | WH 2 | 1 * |

| | | | |
|---|---|---|---|
| | | WH 3 | 1 * |
| 6 | Monta Loma | A | 1 |
| | | B | 1 |
| | | C | 1 |
| | | D | 3 |
| | | E | 1 |
| | | F | 1 |
| | | G | 1 |
| | | H | 1 |
| | | I | 1 |
| | | J | 1 |
| | | K | 1 |
| | | L | 1 |
| | | M | 1 |
| | | N | 1 |
| | | P | 1 |
| 7 | Mariano Castro | 1 | 3 |
| | | 2 | 3 |
| | | 3 | 3 |
| | | 4 | 3 |
| | | 5 | 1 |
| | | 6 | 3 * |
| | | 7 | 3 |
| | | 8 | 1 |
| 8 | Crittenden | 1West | 1 * |
| | | 1East | 1 * |
| | | 2 | 1 |
| | | 3 | 3 * |
| | | 4 | 1 |
| | | 5 | 1 |
| | | 7 | 3 |
| | | 8 | 1 * |
| | | 9 | 3 * |
| | | 10 | 1 * |
| | | DK | 1 |
| | | Gymnasium | 1 |
| | | DW 1 | 3 * |
| | | DW 2 | 3 * |
| 9 | Stevenson & District's Office | 1 | 3 |
| | | 2 | 3 |
| | | 3 | 3 |
| 10 | Cooper | 1 | 1 |
| | | 2 | 1 |

| | | | |
|---|---|---|---|
| | | 3 | 1 |
| 11 | Slater | 1 | 1 |
| | | 2 | 1 |
| | | 3 | 1 |
| | | 4 | 1 |
| | | 5 | 3 |
| | | 6 | 1 |
| | | MUR | 3 |
| 12 | Whisman | 1 | 1 |
| | | 2 | 1 |
| | | 3 | 1 |
| | | 4 | 1 |
| | | 5 | 1 |
| | | 6 | 1 |
| | | 7 | 1 |
| | | 8 | 1 |
| | | 9 | 1 |

* Drawings not available for this particular building. Evaluation was based on similar or identical buildings on the campus or buildings on other campuses within the district.

## BACKGROUND

Hohbach-Lewin, Inc., Structural Engineers has performed a qualitative seismic evaluation of Whisman School District's existing building stock which pre-date 1960, some which went trough minor or major remodel. (Re-locatable buildings were not included in this study as they are, if legally approved Field Act certified buildings, generally and predominantly not considered to present a hazard to building occupants during large locally occurring earthquakes.) The subject buildings were evaluated based on achieving a "life safety" performance objective. This performance objective represents minimum standards of seismic resistance generally recognized as providing adequate seismic risk protection to building occupants. (Buildings which satisfy this performance objective do not necessarily conform to all current code design and/or detailing provisions.) ASCE 31-03 defines the life safety performance objective as: "Building performance that includes significant damage to both structural and nonstructural components during a design earthquake, though at least some margin against either partial or total structural collapse remains. Injuries may occur, but the level of risk for life-threatening injury and entrapment is low."

A ASCE 31-03 Tier I screening was used to quickly identity structural deficiencies in each permanent building. Elements identified in the screening process as having potential deficiencies should be evaluated using a more rigorous analysis procedure, such as a Tier II ASCE 31-03 analysis, to determine whether or not a seismic upgrade should be undertaken.

The deficiencies identified in this report reflect the Tier I results which were confirmed via rough code based or Tier II analysis as applicable. Professional judgment was used to evaluate the contribution of individual elements to the performance of the building as a whole. Some elements may exceed the maximum demand/capacity ratio for the desired performance level; however, they were judged not to affect the overall performance of the structure.

## SEISMIC REVIEW AND ANALYSIS

A lateral analysis based on the American Society of Civil Engineers *Seismic Evaluation of Existing Buildings (ASCE 31-03)* was performed for each reviewed building. The ASCE methodology is more suited than current building codes for the analysis of existing structures in that it provides methods for assessing older construction that may not comply with current detailing and construction practices.

The following tasks were completed as a part of our seismic review and analysis:

- Available plans were reviewed.
- Relevant geotechnical data were established or assumed for the purpose of this review.
- Material strengths and properties were assumed based on standard construction practices of the era. Testing of materials was not performed.
- The existing lateral force resisting elements were identified and lateral forces were calculated.

For the purposes of the ASCE 31-03 review, the buildings were classified as: "Light Wood Frames (W1)", Steel Moment Frames with Flexible Diaphragms (S1A)", "Concrete Shear Walls with Flexible Diaphragm (C2A)" and "Reinforced Masonry Bearing Walls with Flexible Diaphragm (RM1)" based on the construction type and predominant elements of the lateral force resisting system.

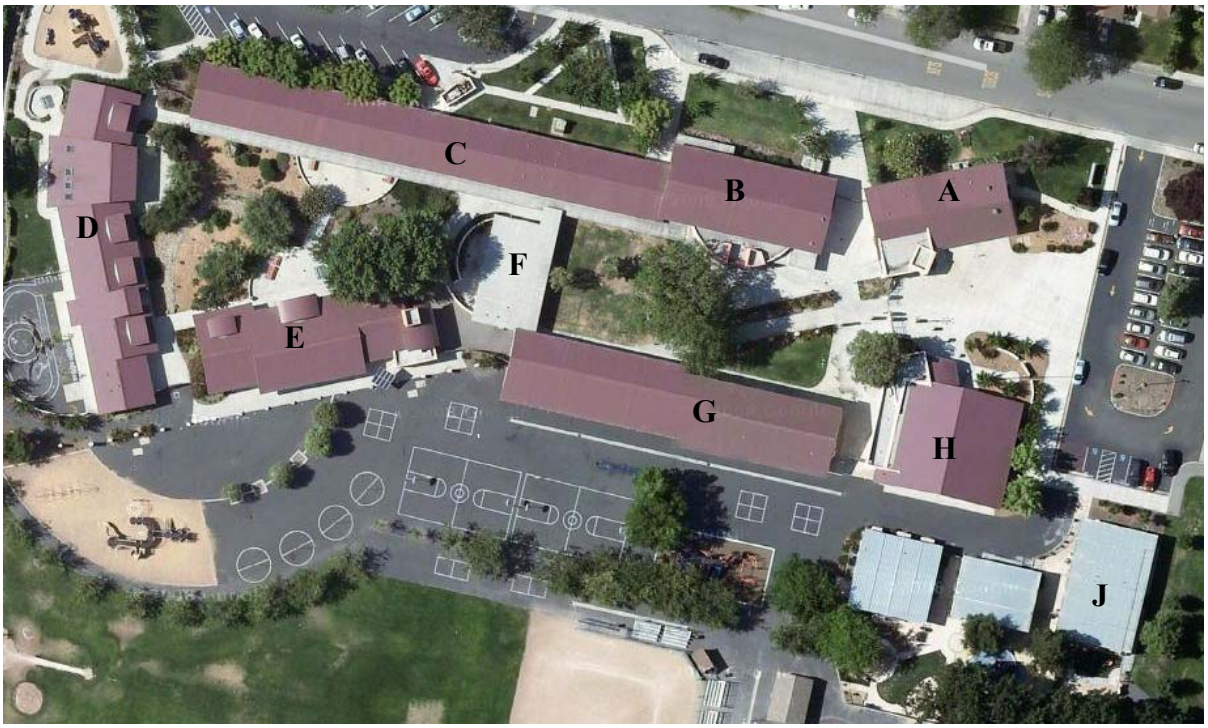
The following checklists were completed for each building:

- Basic Structural Checklist
- Supplemental Structural Checklist

These worksheets require that fundamental elements of the lateral force resisting system (LFRS) be identified as "Compliant" or "Non-Compliant". Compliant elements are considered satisfactory and no further action is required. Non-compliant elements require a more detailed analysis to demonstrate compliance (i.e., a Tier II analysis or a "rough equivalent code based check). If elements are still non-compliant after further more detailed analysis then the building should be further analyzed to determine what, if any seismic upgrades should be considered.

The ASCE 31-03 checklists are included in Appendix A of this report.

## 1.0 THEUERKAUF ELEMENTARY SCHOOL




**Key Plan**

Buildings Descriptions:

Building A:

The building denoted on the key plan as A is a single story wood framed building with an original construction date of 1956, and with an addition and remodel constructed in 1998.

The building's lateral force resisting system consists of plywood sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. Both the original and new shear walls are plywood sheathing.

Both the seismic loads acting in transverse and longitudinal direction are resisted by exterior shear walls. All shear walls in both directions were found to be adequate.

Based on the ASCE tier 1 analysis, Building A does not have any deficiencies. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 1**

Building B:

The building denoted on the key plan as B is a single story wood framed building with an original construction date of 1952, and with an addition constructed in 1998.

The building's lateral force resisting system consists of diagonal sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The original shear walls have one-sided diagonal sheathing. The new shear walls have one-sided and two-sided plywood sheathing.

The seismic loads acting in north-south direction are resisted by exterior shear walls. All shear walls in this direction were found to be adequate. The seismic loads acting in east-west

direction are resisted by exterior and interior shear walls. All shear walls in this direction were found to be adequate.

Based on the ASCE tier 1 analysis, Building B does not have any deficiencies. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 1**

Building C:

The building denoted on the key plan as C is a single story wood framed and concrete shear walls building constructed in 1952.

The building's lateral force resisting system consists of diagonal sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The shear walls are a combination of one-sided diagonal sheathing and reinforced concrete shear walls.

The seismic loads acting in north-south direction are resisted by one-sided diagonal sheathing exterior and interior shear walls. All shear walls in this direction were found to be adequate. The seismic loads acting in east-west direction are resisted by exterior reinforced concrete shear walls. All shear walls in this direction were found to be adequate.

Based on the ASCE tier 1 analysis, Building C does not have any deficiencies. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 1**

Building D:

The building denoted on the key plan as D is a single story wood framed building constructed in 1998.

The building's lateral force resisting system consists of plywood sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The shear walls have one-sided plywood sheathing.

Both the seismic loads acting in transverse and longitudinal direction are resisted by exterior and interior plywood shear walls. All shear walls in both directions were found to be adequate.

Based on the ASCE tier 1 analysis, Building D does not have any deficiencies. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 1**

Buildings E:

Buildings denoted on the key plan as E is a single story wood framed building constructed in 1998.

The building's lateral force resisting system consists of plywood sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The shear walls have one-sided plywood sheathing.

Both the seismic loads acting in transverse and longitudinal direction are resisted by exterior and interior plywood shear walls. All shear walls in both directions were found to be adequate.

Based on the ASCE tier 1 analysis, Building E does not have any deficiencies. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 1**

Building F:

The building denoted on the key plan as F is a single story wood framed building constructed in 1956 which has a remodel with construction date of 1998.

No drawings were available of the remodel. Based on visual inspection, existing openings were infilled and the existing shear walls have new door and window openings. Our analysis of the buildings new configuration indicated that there was an inadequate amount of structural shear wall on the two longitudinal sides of the building. This analysis was derived from the assumption that the undocumented infill is non-structural. It is possible that further investigation of this building could reveal adequate structural infill and therefore change the evaluation rating for this building.

In lieu of destructive observation to the exterior walls, we recommend adding plywood to the inside face of the longitudinal walls to create an adequate lateral force resisting system in this direction.

**This building receives a subjective rating of 3**

Building G:

The building denoted on the key plan as G is a single story wood and steel framed building constructed in 1956.

The building's lateral force resisting system consists of plywood sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls and cantilevered columns. The shear walls have one-sided plywood sheathing.

The seismic loads acting in transverse direction are resisted by exterior and interior plywood shear walls. All shear walls in the transverse direction were found to be adequate. The seismic loads acting in the longitudinal direction are resisted by cantilevered steel columns. The lack of ductility in the footings caused this system to be inadequate.

Infill approximately 50 feet of windows on the both longitudinal exterior walls with structural plywood to create adequate lateral force resisting system in this direction.

**This building receives a subjective rating of 3**

Building H:

The building denoted on the key plan as H is a single story wood framed building with an original construction date of 1985, and with an addition and remodel constructed in 1998.

Very little information was found on the structure. The analysis was performed based on the design of similar buildings as well our visual inspection and whatever drawings were available.

The building's lateral force resisting system consists of diagonal sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The original shear walls are assumed to be diagonal sheathing based on the original building on the site dated from 1952. The new shear walls have one-sided plywood sheathing.

Both the seismic loads acting in transverse and longitudinal direction are resisted by exterior and interior shear walls. All shear walls in both directions were found to be adequate.

Based on the ASCE tier 1 analysis, Building H does not have any deficiencies. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 1**

Building J:

Buildings denoted on the key plan as J is a portable building.

## 2.0 HUFF ELEMENTARY SCHOOL


**Key Plan**

Buildings Descriptions:

Building # 1:

The building denoted on the key plan as # 1 is a single story wood framed building with an original construction date of 1957, and with an addition and remodel constructed in 2003.

The building's lateral force resisting system consists of plywood sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The original shear walls are plywood sheathing based on the original drawings. The new shear walls have plywood sheathing.

Both the seismic loads acting in transverse and longitudinal direction are resisted by exterior and interior shear walls. All shear walls in both directions were found to be adequate.

Based on the ASCE tier 1 analysis, Building # 1 does not have any deficiencies. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 1**

Building # 2:

The building denoted on the key plan as # 2 is a single story wood framed building with an original construction date of 1957.

The building's lateral force resisting system consists of plywood sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The original shear walls have one-sided and two-sided plywood sheathing.

The seismic loads acting in north-south direction are resisted by exterior and interior shear walls. All shear walls in this direction were found to be adequate. The seismic loads acting in

east-west direction are resisted by exterior and interior shear walls. The shear walls in this direction were not found to be adequate.

Based on the ASCE tier 1 analysis, Building # 2 has two deficiencies:

1. The North and South walls have openings greater than 80% of the length which do not meet the 1.5 to 1 aspect ratio. No retrofits are required at this time.

2. The shear walls along the North and South side of the building do not meet the shear stress check.

We recommend adding plywood sheathing on the inside faces of the existing shear walls with minimum edge nailing @ 3" o.c.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 3**

Building # 3:

The building denoted on the key plan as # 3 is a single story wood framed building with an original construction date of 1957.

The building's lateral force resisting system consists of plywood sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The original shear walls have one-sided and two-sided plywood sheathing.

Both the seismic loads acting in transverse and longitudinal direction are resisted by exterior and interior shear walls. All shear walls in both directions were found to be adequate.

Based on the ASCE tier 1 analysis, Building # 3 has one deficiency. The North and South walls have openings greater than 80% of the length which do not meet the 1.5 to 1 aspect ratio. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 2**

Building # 4:

The building denoted on the key plan as # 4 is a single story wood framed building with an original construction date of 1959.

The building's lateral force resisting system consists of plywood sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The original shear walls have one-sided and two-sided plywood sheathing.

Both the seismic loads acting in transverse and longitudinal direction are resisted by exterior and interior shear walls. All shear walls in both directions were found to be adequate.

Based on the ASCE tier 1 analysis, Building # 4 has one deficiency. The North and South walls have openings greater than 80% of the length which do not meet the 1.5 to 1 aspect ratio. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 2**

Building # 5:

The building denoted on the key plan as # 5 is a single story wood framed building with an original construction date of 1960.

The building's lateral force resisting system consists of plywood sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The original

shear walls have one-sided and two-sided plywood sheathing.

Both the seismic loads acting in transverse and longitudinal direction are resisted by exterior and interior shear walls. All shear walls in both directions were found to be adequate.

Based on the ASCE tier 1 analysis, Building # 5 has one deficiency. The North and South walls have openings greater than 80% of the length which do not meet the 1.5 to 1 aspect ratio. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 2**

MUR:

The MUR is a single story steel building constructed in about 1965 with approximately 4962 square feet of floor area. It consists of a wood framed roof diaphragm and steel wide flange beam and tube steel cantilever columns. The roof diaphragm is supported by the steel beams. The foundation system consists of perimeter continuous footings as well as spread footings beneath the tube steel columns.

For the purposes of the ASCE 31 review, this building was classified at "Steel moment frame with flexible floor and roof diaphragms (S1A)."

**Findings:**

The building was found to have varying conformance to the ASCE 31 guidelines. The greatest deficiencies in this structure are cantilever tube steel columns as well as drift ratios of system. The existing tube steel 8x8 cantilever columns do not have the strength nor the stiffness required to adequately resist the lateral loads expected to occur during an earthquake. This type of construction is also more flexible than other building types and this flexibility can lead to large drifts during an earthquake, causing extensive structural and non-

structural damage.

This building does have solid exterior walls that are not currently being utilized as shear walls. To achieve a life-safety performance level for this building, the likely most economical solution is to sheath selected solid exterior walls with plywood to create shearwalls.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 3**

## 3.0 BUBB ELEMENTARY SCHOOL


**Key Plan**

Buildings Descriptions:

Building # 1:

The building denoted on the key plan as # 1 is a single story wood framed building with an original construction date of 1953.

The building's lateral force resisting system consists of plywood sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The original shear walls have one-sided and two-sided plywood sheathing.

Both the seismic loads acting in transverse and longitudinal direction are resisted by exterior and interior shear walls. All shear walls in both directions were found to be adequate.

Based on the ASCE tier 1 analysis, Building # 1 does not have any deficiencies. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 1**

Building # 2:

The building denoted on the key plan as # 2 is a single story wood framed building with an original construction date of 1953, and with an addition and remodel constructed in 1995.

The building's lateral force resisting system consists of plywood sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. Both the original and new shear walls have plywood sheathing.

Both the seismic loads acting in transverse and longitudinal direction are resisted by exterior and interior shear walls. All shear walls in both directions were found to be adequate.

Based on the ASCE tier 1 analysis, Building # 2 does not have any deficiencies. No retrofits

are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 1**

Building # 3:

The building denoted on the key plan as # 3 is a single story wood framed building with an original construction date of 1954.

The building's lateral force resisting system consists of plywood sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The original shear walls have one-sided and two-sided plywood sheathing.

Both the seismic loads acting in transverse and longitudinal direction are resisted by exterior and interior shear walls. All shear walls in both directions were found to be adequate.

Based on the ASCE tier 1 analysis, Building # 3 has one deficiency. The North and South walls have openings greater than 80% of the length which do not meet the 1.5 to 1 aspect ratio. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 2**

Building # 4:

The building denoted on the key plan as # 4 is a single story wood framed building with an original construction date of 1954.

The building's lateral force resisting system consists of plywood sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The original shear walls have one-sided and two-sided plywood sheathing.

Both the seismic loads acting in transverse and longitudinal direction are resisted by exterior and interior shear walls. All shear walls in both directions were found to be adequate.

Based on the ASCE tier 1 analysis, Building # 4 has one deficiency. The North and South walls have openings greater than 80% of the length which do not meet the 1.5 to 1 aspect ratio. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 2**

Building # 5:

The building denoted on the key plan as # 5 is a single story wood framed building with an original construction date of 1959

The building's lateral force resisting system consists of plywood sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The original shear walls have one-sided and two-sided plywood sheathing.

Both the seismic loads acting in transverse and longitudinal direction are resisted by exterior and interior shear walls. All shear walls in both directions were found to be adequate.

Based on the ASCE tier 1 analysis, Building # 5 has one deficiency. The North and South walls have openings greater than 80% of the length which do not meet the 1.5 to 1 aspect ratio. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this

report.

**This building receives a subjective rating of 2**

MUR:

The MUR is a single story steel building constructed in about 1965 with approximately 4962 square feet of floor area. It consists of a wood framed roof diaphragm and steel wide flange beam and tube steel cantilever columns. The roof diaphragm is supported by the steel beams. The foundation system consists of perimeter continuous footings as well as spread footings beneath the tube steel columns.

For the purposes of the ASCE 31 review, this building was classified at "Steel moment frame with flexible floor and roof diaphragms (S1A)."

**Findings:**

The building was found to have varying conformance to the ASCE 31 guidelines. The greatest deficiencies in this structure are cantilever tube steel columns as well as drift ratios of system. The existing tube steel 8x8 cantilever columns do not have the strength nor the stiffness required to adequately resist the lateral loads expected to occur during an earthquake. This type of construction is also more flexible than other building types and this flexibility can lead to large drifts during an earthquake, causing extensive structural and non-structural damage.

This building does have solid exterior walls that are not currently being utilized as shear walls. To achieve a life-safety performance level for this building, the likely most economical solution is to sheath selected solid exterior walls with plywood to create shearwalls.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 3**

## 4.0 EDITH LANDELS ELEMENTARY SCHOOL


**Key Plan**

Buildings Descriptions:

Buildings # 1 & 2:

The buildings denoted on the key plan as # 1 & 2 are single story wood framed buildings. The buildings were remodeled in 2001. No information was found on the original construction of those buildings, but through visual inspection we evaluated them to be similar to buildings # 1 & 2 on the Huff campus but interconnected through walls.

The buildings lateral force resisting system consists of plywood sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The original shear walls have one-sided and two-sided plywood sheathing.

Both the seismic loads acting in transverse and longitudinal direction are resisted by exterior and interior shear walls. All shear walls in both directions were found to be adequate.

Based on the ASCE tier 1 analysis, Buildings # 1 & 2 have no deficiencies.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**These buildings receive a subjective rating of 1**

Building # 3:

The building denoted on the key plan as # 3 is a single story wood framed building. No information was found on this building, but through visual inspection we evaluated it to be similar to building # 3 on the Huff campus.

The building's lateral force resisting system consists of plywood sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The original shear walls have one-sided and two-sided plywood sheathing.

Both the seismic loads acting in transverse and longitudinal direction are resisted by exterior

and interior shear walls. All shear walls in both directions were found to be adequate.

Based on the ASCE tier 1 analysis, Building # 3 has one deficiency. The North and South walls have openings greater than 80% of the length which do not meet the 1.5 to 1 aspect ratio. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 2**

Building # 4:

The building denoted on the key plan as # 4 is a single story wood framed building. No information was found on this building, but through visual inspection we evaluated it to be similar to building # 3 on the Huff campus.

The building's lateral force resisting system consists of plywood sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The original shear walls have one-sided and two-sided plywood sheathing.

Both the seismic loads acting in transverse and longitudinal direction are resisted by exterior and interior shear walls. All shear walls in both directions were found to be adequate.

Based on the ASCE tier 1 analysis, Building # 4 has one deficiency. The North and South walls have openings greater than 80% of the length which do not meet the 1.5 to 1 aspect ratio. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 2**

Building # 5:

The building denoted on the key plan as # 5 is a single story wood framed building with an original construction date of 1959.

The building's lateral force resisting system consists of plywood sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The original shear walls have one-sided and two-sided plywood sheathing.

Both the seismic loads acting in transverse and longitudinal direction are resisted by exterior and interior shear walls. All shear walls in both directions were found to be adequate.

Based on the ASCE tier 1 analysis, Building # 5 has one deficiency. The North and South walls have openings greater than 80% of the length which do not meet the 1.5 to 1 aspect ratio. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 2**

MUR:

The MUR is a single story steel building constructed in about 1965 with approximately 4962 square feet of floor area. It consists of a wood framed roof diaphragm and steel wide flange beam and tube steel cantilever columns. The roof diaphragm is supported by the steel beams. The foundation system consists of perimeter continuous footings as well as spread footings beneath the tube steel columns.

For the purposes of the ASCE 31 review, this building was classified at "Steel moment frame with flexible floor and roof diaphragms (S1A)."

**Findings:**

The building was found to have varying conformance to the ASCE 31 guidelines. The greatest deficiencies in this structure are cantilever tube steel columns as well as drift ratios of system. The existing tube steel 8x8 cantilever columns do not have the strength nor the stiffness required to adequately resist the lateral loads expected to occur during an earthquake. This type of construction is also more flexible than other building types and this flexibility can lead to large drifts during an earthquake, causing extensive structural and non-structural damage.

This building does have solid exterior walls that are not currently being utilized as shear walls. To achieve a life-safety performance level for this building, the likely most economical solution is to sheath selected solid exterior walls with plywood to create shearwalls.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 3**

## 5.0 GRAHAM MIDDLE SCHOOL


**Key Plan**

Buildings Descriptions:

Building # 1:

The building denoted on the key plan as #1 is a single story wood framed building with an original construction date of 1957 and two additions with constructions dates of 1992 and 1995.

The building's lateral force resisting system consists of plywood sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The original and new shear walls have one-sided plywood sheathing.

Both the seismic loads acting in transverse and longitudinal direction are resisted by exterior shear walls. All shear walls in both directions were found to be adequate.

Based on the ASCE tier 1 analysis, building # 1 does not have any deficiencies. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 1**

Building # 2:

The building denoted on the key plan as # 2 is a single story wood framed building with an original construction date of 1957.

The building's lateral force resisting system consists of plywood sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The original shear walls have one-sided and two-sided plywood sheathing.

Both the seismic loads acting in transverse and longitudinal direction are resisted by exterior and interior shear walls. All shear walls in both directions were found to be adequate.

Based on the ASCE tier 1 analysis, Building # 2 has one deficiency. The North and South walls have openings greater than 80% of the length which do not meet the 1.5 to 1 aspect ratio. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 2**

Building # 3:

The building denoted on the key plan as # 3 is a single story wood framed building with an original construction date of 1957.

The building's lateral force resisting system consists of plywood sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The original shear walls have one-sided and two-sided plywood sheathing.

Both the seismic loads acting in transverse and longitudinal direction are resisted by exterior and interior shear walls. All shear walls in both directions were found to be adequate.

Based on the ASCE tier 1 analysis, Building # 3 has one deficiency. The North and South walls have openings greater than 80% of the length which do not meet the 1.5 to 1 aspect ratio. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 2**

Building # 4:

The building denoted on the key plan as # 4 is a single story wood framed building with an original construction date of 1957.

The building's lateral force resisting system consists of plywood sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The original shear walls have one-sided and two-sided plywood sheathing.

Both the seismic loads acting in transverse and longitudinal direction are resisted by exterior and interior shear walls. All shear walls in both directions were found to be adequate.

Based on the ASCE tier 1 analysis, Building # 4 has one deficiency. The North and South walls have openings greater than 80% of the length which do not meet the 1.5 to 1 aspect ratio. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 2**

Building # 5:

The building denoted on the key plan as # 5 is a single story wood framed building with an original construction date of 1957 and an addition with a construction date of 1959.

The building's lateral force resisting system consists of plywood sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The original shear walls have one-sided and two-sided plywood sheathing.

Both the seismic loads acting in transverse and longitudinal direction are resisted by exterior and interior shear walls. All shear walls in both directions were found to be adequate.

Based on the ASCE tier 1 analysis, Building #5 does not have any deficiencies. No retrofits

are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 1**

Building # 6:

The building denoted on the key plan as # 6 is a single story wood framed building with an original construction date of 1957 and an addition with a construction date of 1959.

The building's lateral force resisting system consists of plywood sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The original shear walls have one-sided and two-sided plywood sheathing.

Both the seismic loads acting in transverse and longitudinal direction are resisted by exterior and interior shear walls. All shear walls in both directions were found to be adequate.

Based on the ASCE tier 1 analysis, Building #6 does not have any deficiencies. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 1**

Building # 7:

The building denoted on the key plan as #7 is a single story wood framed building with an original construction date of 1957 and an addition and remodel construction date of 2000.

The building's lateral force resisting system consists of plywood sheathing at the roof level,

which acts as a horizontal wood diaphragm spanning between the shear walls. The original shear walls have one-sided and two-sided plywood sheathing.

Both the seismic loads acting in transverse and longitudinal direction are resisted by exterior and interior shear walls. All shear walls in both directions were found to be adequate.

Based on the ASCE tier 1 analysis, building # 7 does not have any deficiencies. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 1**

Building # 8:

The building denoted on the key plan as # 8 is a single story wood framed building with an original construction date of approximately 1959. No information was found on this building, but through visual inspection we evaluated it to be similar to building # 3 on the Huff campus.

The building's lateral force resisting system consists of plywood sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The original shear walls have one-sided and two-sided plywood sheathing.

Both the seismic loads acting in transverse and longitudinal direction are resisted by exterior and interior shear walls. All shear walls in both directions were found to be adequate.

Based on the ASCE tier 1 analysis, Building # 8 has one deficiency. The North and South walls have openings greater than 80% of the length which do not meet the 1.5 to 1 aspect ratio. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this

report.

**This building receives a subjective rating of 2**

Building #9:

The building denoted on the key plan as #9 is a single story wood framed building with steel moment frames in one direction. The building has an original construction date of 1959, and with an addition constructed in 2000.

The building's lateral force resisting system consists of plywood sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls and moment frames. The original shear walls have one-sided plywood sheathing. The building has two different levels of roof, which act as two separate diaphragms.

The high roof seismic loads acting in the N-S direction are resisted by exterior shear walls and steel moment frames. The lateral force resisting system in the N-S direction is found to be adequate. The high roof seismic loads acting in the E-W direction are resisted by the moment frame columns in the weak direction. The lateral force resisting system in the E-W direction is found to be inadequate.

The low roof seismic loads acting in the N-S direction are resisted by exterior an interior shear walls. The lateral force resisting system in the N-S direction is found to be adequate. The low roof has no lateral force resisting system for seismic loads acting in the E-W direction.

Based on the ASCE tier 1 analysis, building # 9 has deficiencies and we recommend a seismic upgrade be incorporated to provide adequate lateral force resisting systems at the low and high roofs, both in the E-W direction.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 3**

Building #10:

The building denoted on the key plan as #10 is a single story wood framed building with steel moment frames in one direction. The building has an original construction date of 1960.

The building's lateral force resisting system consists of plywood diagonal sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls and steel cantilevered columns. The original shear walls have one-sided plywood sheathing.

The seismic loads acting in transverse direction are resisted by exterior and interior shear walls. All shear walls in were found to be adequate.

The seismic loads acting in longitudinal direction are resisted by cantilevered steel columns. No information was found on the shear transfer to the columns. Based on the information provided and our engineering judgment we find that the load resisting system in the longitudinal direction is not adequate.

Based on the ASCE tier 1 analysis, building # 10 has deficiencies and we recommend a complete seismic upgrade in the longitudinal direction.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 2**

Building #11:

The building denoted on the key plan as #11 is a single story wood framed building with steel moment frames in one direction. The building has an original construction date of 1960.

The building's lateral force resisting system consists of plywood diagonal sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls and

steel cantilevered columns. The original shear walls have one-sided plywood sheathing.

The seismic loads acting in transverse direction are resisted by exterior and interior shear walls. All shear walls in were found to be adequate.

The seismic loads acting in longitudinal direction are resisted by cantilevered steel columns. No information was found on the shear transfer to the columns. Based on the information provided and our engineering judgment we find that the load resisting system in the longitudinal direction is not adequate.

Based on the ASCE tier 1 analysis, building # 11 has deficiencies and we recommend a complete seismic upgrade in the longitudinal direction.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 2**

Building #12:

The building denoted on the key plan as #12 is a single story wood framed building with an original construction date of 1960.

The building's lateral force resisting system consists of plywood sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The original shear walls have one-sided plywood sheathing.

Both the seismic loads acting in transverse and longitudinal direction are resisted by exterior and interior shear walls. All shear walls in both directions were found to be adequate.

Based on the ASCE tier 1 analysis, building # 12 does not have any deficiencies. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this

report.

**This building receives a subjective rating of 1**

Building # 13:

The building denoted on the key plan as #13 is a single story wood and steel framed building with an original construction date of 1994.

The building's lateral force resisting system consists of plywood sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The original shear walls have one-sided plywood sheathing.

Both the seismic loads acting in transverse and longitudinal direction are resisted by exterior and interior shear walls. All shear walls in both directions were found to be adequate.

Based on the ASCE tier 1 analysis, building # 13 does not have any deficiencies. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 1**

OD (Outdoor Dining):

The building denoted on the key plan as OD is a single story wood and steel framed open structure with an original construction date of 1994.

The building's lateral force resisting system consists of plywood sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the steel beams and cantilevered steel columns.

Both the seismic loads acting in transverse and longitudinal direction are resisted by steel beams acting as collectors transferring the seismic load into the steel cantilevered columns..

Based on the ASCE tier 1 analysis, OD does not have any deficiencies. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 1**

WH 1:

The building denoted on the key plan as WH 1 is a single story wood framed building with an unknown original construction date.

No information was found on the structure. The analysis was performed based on the design of similar buildings as well our visual inspection.

The building's lateral force resisting system consists of diagonal sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The shear walls have one-sided diagonal sheathing.

The seismic loads acting in the transverse direction is resisted by exterior and interior shear walls. The shear walls in this direction were found to be inadequate.

The seismic load acting in the longitudinal direction is resisted by one exterior shear wall at the back of the building. There is no shear wall at the front of the building and therefore, the lateral force resisting system in this direction was found to be inadequate.

Based on the ASCE tier 1 analysis, WH 1 has the following deficiencies.

1. Redundancy: The longitudinal direction has only 1 line of resistance.
2. Openings: The front of the building has more than 80% in openings.
3. Wood Sills bolts: No information was found on the sill bolts and we could not access

the sills to verify the sill bolts spacing.

4. Hold-Down Anchors: No hold-down anchors were seen during the visual inspection

We recommend adding plywood shear walls with appropriate sill bolts and hold downs to the exterior walls to create an adequate lateral force resisting system in both directions.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 3**

WH 2:

The building denoted on the key plan as WH 2 is a single story wood framed building.

The building's lateral force resisting system consists of plywood sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The shear walls have one-sided plywood sheathing.

Both the seismic loads acting in transverse and longitudinal direction are resisted by exterior and shear walls. All shear walls in both directions were found to be adequate.

Based on the ASCE tier 1 analysis, WH 2 does not have any deficiencies. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 1**

WH 3:

The building denoted on the key plan as WH 3 is a single story steel framed building with an unknown original and remodel construction date.

No information was found on the structure. We evaluated the building based on visual inspection and our experience with similar buildings.

The building's horizontal lateral force resisting system consists of steel tension rods at the roof level, which transfers the loads into the vertical lateral force resisting system.

The building's vertical lateral force resisting system in both directions consists of steel moment frames. All moment frames in both directions were found to be adequate.

Based on the ASCE tier 1 analysis, WH 3 does not have any deficiencies. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 1**

## 6.0 MONTA LOMA ELEMENTARY SCHOOL


**Key Plan**

Buildings Descriptions:

Building A:

The building denoted on the key plan as A is a single story wood framed building with an original construction date of 1955 and with a renovation date of 1999.

The building's lateral force resisting system consists of diagonal sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The original shear walls have one-sided plywood sheathing, and the new shear walls have two-sided plywood sheathing.

Both the seismic loads acting in transverse and longitudinal direction are resisted by exterior and interior shear walls. All shear walls in both directions were found to be adequate.

Based on the ASCE tier 1 analysis, building A does not have any deficiencies. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 1**

Building B:

The building denoted on the key plan as B is a single story wood framed building with an original construction date of 1955 and with a renovation date of 1999.

The building's lateral force resisting system consists of diagonal sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The original shear walls have one-sided plywood sheathing, and the new shear walls have two-sided plywood sheathing.

Both the seismic loads acting in transverse and longitudinal direction are resisted by exterior

and interior shear walls. All shear walls in both directions were found to be adequate.

Based on the ASCE tier 1 analysis, building B does not have any deficiencies. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 1**

Building C:

The building denoted on the key plan as C is a single story wood framed building with an original construction date of 1955 and with a renovation date of 1999.

The building's lateral force resisting system consists of diagonal sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The original shear walls have one-sided plywood sheathing, and the new shear walls have two-sided plywood sheathing.

Both the seismic loads acting in transverse and longitudinal direction are resisted by exterior and interior shear walls. All shear walls in both directions were found to be adequate.

Based on the ASCE tier 1 analysis, building C does not have any deficiencies. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 1**

Building D:

The building denoted on the key plan as D is a single story wood framed building with an original construction date of 1955 and with a renovation date of 1999.

The building's lateral force resisting system consists of diagonal sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The original shear walls have one-sided plywood sheathing, and the new shear walls have two-sided plywood sheathing.

Both the seismic loads acting in transverse and longitudinal direction are resisted by exterior and interior shear walls. The shear walls in N-S direction were found to be adequate. The shear walls in the E-W direction were found to be inadequate.

Based on the ASCE tier 1 analysis, building D has some deficiencies. The building fails in the shear stress check. Therefore we recommend adding plywood sheathing to the inside of the existing shear walls with nailing at 3" o.c in the E-W direction.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 3**

Building E:

The building denoted on the key plan as E is a single story wood framed building with an original construction date of 1955 and with a renovation date of 1999.

The building's lateral force resisting system consists of diagonal sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The original shear walls have one-sided plywood sheathing, and the new shear walls have two-sided plywood sheathing.

Both the seismic loads acting in transverse and longitudinal direction are resisted by exterior and interior shear walls. All shear walls in both directions were found to be adequate.

Based on the ASCE tier 1 analysis, building E does not have any deficiencies. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 1**

Building F:

The building denoted on the key plan as F is a single story wood framed building with an original construction date of 1956 and with a renovation date of 1999.

The building's lateral force resisting system consists of diagonal sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The original shear walls have one-sided plywood sheathing, and the new shear walls have two-sided plywood sheathing.

Both the seismic loads acting in transverse and longitudinal direction are resisted by exterior and interior shear walls. All shear walls in both directions were found to be adequate.

Based on the ASCE tier 1 analysis, building F does not have any deficiencies. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 1**

Building G:

The building denoted on the key plan as G is a single story wood framed building with an

original construction date of 1956 and with a renovation date of 1999.

The building's lateral force resisting system consists of diagonal sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The original shear walls have one-sided plywood sheathing, and the new shear walls have two-sided plywood sheathing.

Both the seismic loads acting in transverse and longitudinal direction are resisted by exterior and interior shear walls. All shear walls in both directions were found to be adequate.

Based on the ASCE tier 1 analysis, building G does not have any deficiencies. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 1**

Building H:

The building denoted on the key plan as H is a single story wood framed building with an original construction date of 1955 and with a renovation date of 1999.

The building's lateral force resisting system consists of diagonal sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The original shear walls have one-sided plywood sheathing, and the new shear walls have two-sided plywood sheathing.

Both the seismic loads acting in transverse and longitudinal direction are resisted by exterior and interior shear walls. All shear walls in both directions were found to be adequate.

Based on the ASCE tier 1 analysis, building H does not have any deficiencies. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 1**

Building I:

The building denoted on the key plan as I is a single story wood framed building with an original construction date of 1955 and with a renovation date of 1999.

The building's lateral force resisting system consists of diagonal sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The original shear walls have one-sided plywood sheathing, and the new shear walls have two-sided plywood sheathing.

Both the seismic loads acting in transverse and longitudinal direction are resisted by exterior and interior shear walls. All shear walls in both directions were found to be adequate.

Based on the ASCE tier 1 analysis, building I does not have any deficiencies. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 1**

Building J:

The building denoted on the key plan as J is a single story wood framed building with an original construction date of 1962 and with a renovation date of 1999.

The building's lateral force resisting system consists of plywood sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The original

and new shear walls have one-sided plywood sheathing.

Both the seismic loads acting in transverse and longitudinal direction are resisted by exterior shear walls. All shear walls in both directions were found to be adequate.

Based on the ASCE tier 1 analysis, building J does not have any deficiencies. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 1**

Building K:

The building denoted on the key plan as K is a single story wood and steel framed building with an original construction date of 1958 and with a renovation date of 1999.

The building's lateral force resisting system consists of plywood sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The original shear walls have one-sided plywood sheathing.

Both the seismic loads acting in transverse and longitudinal direction are resisted by exterior and shear walls. All shear walls in both directions were found to be adequate.

Based on the ASCE tier 1 analysis, building K does not have any deficiencies. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 1**

Building L:

The building denoted on the key plan as L is a single story wood framed building with an original construction date of 1999.

The building's lateral force resisting system consists of plywood sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The shear walls have one-sided plywood sheathing.

Both the seismic loads acting in transverse and longitudinal direction are resisted by exterior and interior shear walls. All shear walls in both directions were found to be adequate.

Based on the ASCE tier 1 analysis, building L does not have any deficiencies. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 1**

Building M:

The building denoted on the key plan as M is a single story wood framed building with an original construction date of 1999.

The building's lateral force resisting system consists of plywood sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The shear walls have one-sided and two-sided plywood sheathing.

Both the seismic loads acting in transverse and longitudinal direction are resisted by exterior and interior shear walls. All shear walls in both directions were found to be adequate.

Based on the ASCE tier 1 analysis, building M does not have any deficiencies. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 1**

Building N:

The building denoted on the key plan as N is a single story wood framed building with an original construction date of 1999.

The building's lateral force resisting system consists of plywood sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The shear walls have one-sided plywood sheathing.

Both the seismic loads acting in transverse and longitudinal direction are resisted by exterior and interior shear walls. All shear walls in both directions were found to be adequate.

Based on the ASCE tier 1 analysis, building N does not have any deficiencies. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 1**

Building P:

The building denoted on the key plan as P is a single story wood framed building with an original construction date of 1999.

The building's lateral force resisting system consists of plywood sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The shear

walls have one-sided plywood sheathing.

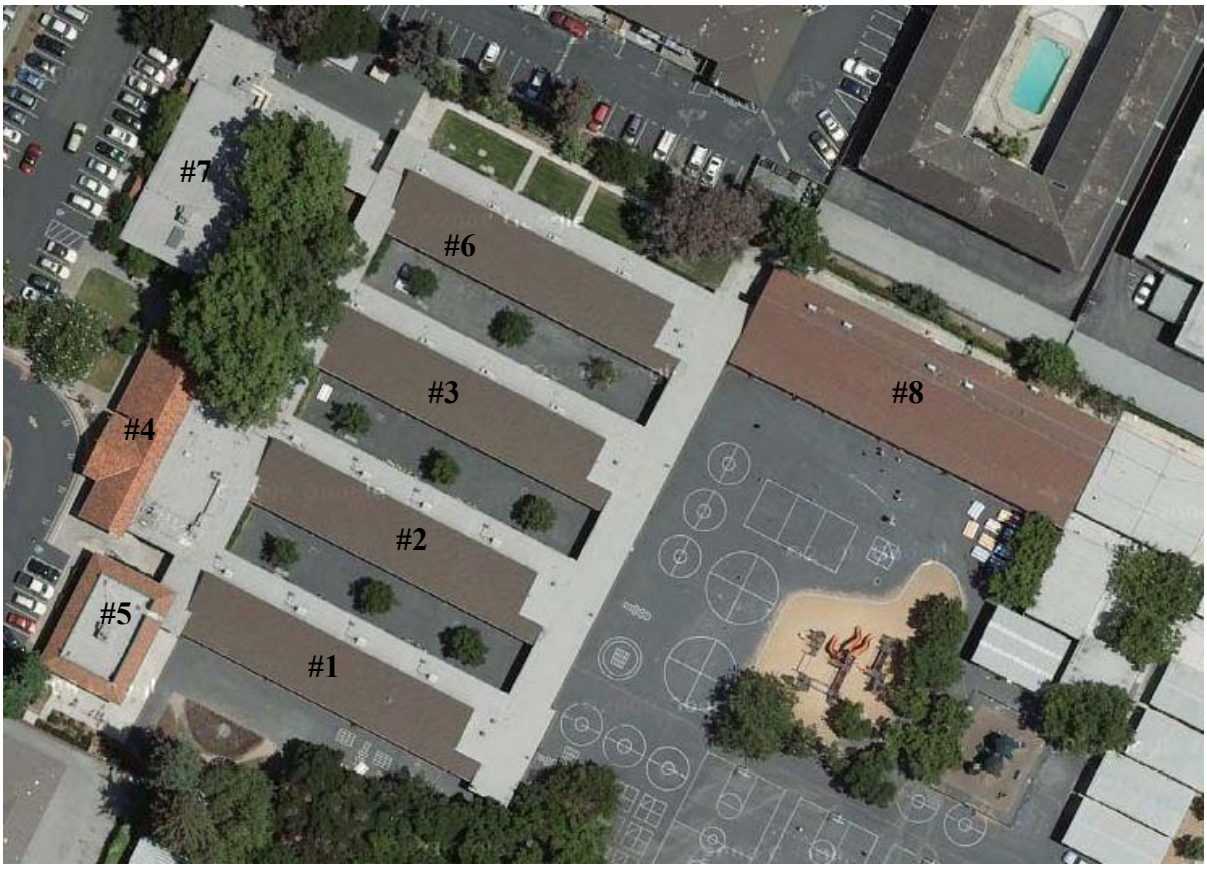
Both the seismic loads acting in transverse and longitudinal direction are resisted by exterior and interior shear walls. All shear walls in both directions were found to be adequate.

Based on the ASCE tier 1 analysis, building P does not have any deficiencies. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 1**

## 7.0 MARIANO CASTRO ELEMENTARY SCHOOL




**Key Plan**

Buildings Descriptions:

Building # 1:

The building denoted on the key plan as # 1 is a single story wood framed building with an original construction date of 1947.

The building's lateral force resisting system consists of diagonal sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The shear walls are diagonal sheathing.

Both the seismic loads acting in transverse and longitudinal direction are resisted by exterior and interior shear walls. All shear walls in the longitudinal directions were found to be adequate. All the interior shear walls in the transverse direction were found to be adequate. The exterior shear walls in the transverse direction were not found to be adequate.

Based on the ASCE tier 1 analysis, Building # 1 has deficiencies.

1. The exterior walls in the transverse direction do not meet the shear stress check. We recommend adding plywood sheathing with nailing at 3" o.c. to the inside of face o f the subject walls.

2. No information was found about the wood sill bolts. Field verify the as-built condition, and retrofit if sill bolts are missing or spaced at a greater spacing than 4'-0" o.c.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 3**

Building # 2:

The building denoted on the key plan as # 2 is a single story wood framed building with an

original construction date of 1947.

The building's lateral force resisting system consists of diagonal sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The shear walls are diagonal sheathing.

Both the seismic loads acting in transverse and longitudinal direction are resisted by exterior and interior shear walls. All shear walls in the longitudinal directions were found to be adequate. All the interior shear walls in the transverse direction were found to be adequate. The exterior shear walls in the transverse direction were not found to be adequate.

Based on the ASCE tier 1 analysis, Building # 2 has deficiencies.

1. The exterior walls in the transverse direction do not meet the shear stress check. We recommend adding plywood sheathing with nailing at 3" o.c. to the inside face of the subject walls.

2. No information was found about the wood sill bolts. Field verify the as-built condition, and retrofit if sill bolts are missing or spaced at a greater spacing than 4'-0" o.c.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 3**

Building # 3:

The building denoted on the key plan as # 3 is a single story wood framed building with an original construction date of 1947.

The building's lateral force resisting system consists of diagonal sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The shear

walls are diagonal sheathing.

Both the seismic loads acting in transverse and longitudinal direction are resisted by exterior and interior shear walls. All shear walls in the longitudinal directions were found to be adequate. All the interior shear walls in the transverse direction were found to be adequate. The exterior shear walls in the transverse direction were not found to be adequate.

Based on the ASCE tier 1 analysis, Building # 3 has deficiencies.

3. The exterior walls in the transverse direction do not meet the shear stress check. We recommend adding plywood sheathing with nailing at 3" o.c. to the inside face of the subject walls.

4. No information was found about the wood sill bolts. Field verify the as-built condition, and retrofit if sill bolts are missing or spaced at a greater spacing than 4'-0" o.c.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 3**

Building # 4:

The building denoted on the key plan as # 4 is a single story wood framed building with an original construction date of 1947 and modernization date of 1992.

The building's lateral force resisting system consists of diagonal sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The shear walls are diagonal sheathing.

Both the seismic loads acting in transverse and longitudinal direction are resisted by exterior shear walls. Walls in both directions were not found to be adequate.

Based on the ASCE tier 1 analysis, Building # 4 has deficiencies.

1. The exterior walls in the transverse direction do not meet the shear stress check. Replace diagonal sheathing or adding plywood sheathing with nailing at 3" o.c.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 3**

Building # 5:

The building denoted on the key plan as # 5 is a single story wood framed building with an original construction date of 1947 and modernization date of 2000.

The building's lateral force resisting system consists of plywood sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The shear walls are plywood sheathing.

The seismic loads acting in longitudinal direction (N-S) are resisted by exterior shear walls. The seismic loads acting in the transverse direction (E-W) are resisted by exterior and interior shear walls. All shear walls in both directions were found to be adequate.

Based on the ASCE tier 1 analysis, building #5 does not have any deficiencies. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 1**

Building # 6:

The building denoted on the key plan as # 6 is a single story wood framed building. No information was found on this building, but through visual inspection we evaluated it to be similar to building # 1 on this campus.

The building's lateral force resisting system consists of diagonal sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The shear walls are diagonal sheathing.

Both the seismic loads acting in transverse and longitudinal direction are resisted by exterior and interior shear walls. All shear walls in the longitudinal directions were found to be adequate. All the interior shear walls in the transverse direction were found to be adequate. The exterior shear walls in the transverse direction were not found to be adequate.

Based on the ASCE tier 1 analysis, Building # 6 has deficiencies.

1. The exterior walls in the transverse direction do not meet the shear stress check. We recommend adding plywood sheathing with nailing at 3" o.c. to the inside of subject walls.

2. No information was found about the wood sill bolts. Field verify the as-built condition, and retrofit if sill bolts are missing or spaced at a greater spacing than 4'-0" o.c.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 3**

Building # 7:

The building denoted on the key plan as # 7 is a single story wood, concrete and steel framed multi-use building with an original construction date of 1952 which includes an addition with a construction date of 1993.

The building's lateral force resisting system in the original portion consists of diagonal sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The shear walls comprises of diagonal sheathed walls and concrete shear walls. The building's lateral force resisting system in the addition consists of plywood sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The shear walls comprises of plywood sheathing. There's a 3" seismic gap between the original building and the addition.

Both the seismic loads acting in transverse and longitudinal direction are resisted by exterior and interior shear walls. The exterior shear wall in the longitudinal direction along the north side was found to be inadequate. All other walls in either direction were found to be adequate.

Based on the ASCE tier 1 analysis, Building # 7 has one deficiency.

1. The exterior wall in the longitudinal direction along the north side at the original construction does not meet the shear stress check. We recommend adding plywood sheathing with nailing at 3" o.c. to the inside of that wall.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 3**

Building # 8:

The building denoted on the key plan as #8 is a single story wood framed building with an original construction date of 1950.

The building's lateral force resisting system consists of plywood sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The shear walls have one-sided plywood sheathing.

Both the seismic loads acting in transverse and longitudinal direction are resisted by exterior and interior shear walls. All shear walls in both directions were found to be adequate.

Based on the ASCE tier 1 analysis, building #8 does not have any deficiencies. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 1**

## 8.0 CRITTENDEN MIDDLE SCHOOL


**Key Plan**

Buildings Descriptions:

Building # 1 West:

The building denoted on the key plan as 1 West is a single story wood framed and concrete shear wall building with an original constructed date in the late 1940s and an addition/remodel construction date of 1998.

Very little information was found on the structure. The analysis was performed based on the design of similar buildings as well our visual inspection and whatever drawings were available.

The building's lateral force resisting system consists of diagonal sheathing at the roof level for the original construction and plywood sheathing for the addition, which acts as a horizontal wood diaphragm spanning between the shear walls. The shear walls are a combination of one-sided and two sided sheathed shear walls and reinforced concrete shear walls.

The seismic loads acting in north-south direction are resisted by one-sided and two-sided diagonal sheathing exterior and interior shear walls at the original portion and plywood sheathing for the addition. All shear walls in this direction were found to be adequate. The seismic loads acting in east-west direction are resisted by exterior reinforced concrete shear walls. All shear walls in this direction were found to be adequate.

Based on the ASCE tier 1 analysis, Building 1 West does not have any deficiencies. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 1**

Building # 1 East:

The building denoted on the key plan as 1 East is a single story wood framed and concrete shear wall building with an original constructed date in the late 1940s and an addition/remodel construction date of 1998.

Very little information was found on the structure. The analysis was performed based on the design of similar buildings as well our visual inspection and whatever drawings were available.

The building's lateral force resisting system consists of diagonal sheathing at the roof level for the original construction and plywood sheathing for the addition, which acts as a horizontal wood diaphragm spanning between the shear walls. The shear walls are a combination of one-sided and two sided sheathed shear walls and reinforced concrete shear walls.

The seismic loads acting in north-south direction are resisted by one-sided and two-sided diagonal sheathing exterior and interior shear walls at the original portion and plywood sheathing for the addition. All shear walls in this direction were found to be adequate. The seismic loads acting in east-west direction are resisted by exterior reinforced concrete shear walls. All shear walls in this direction were found to be adequate.

Based on the ASCE tier 1 analysis, Building 1B does not have any deficiencies. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 1**

Building # 2:

The building denoted on the key plan as 2 is a two story wood framed building with a

construction date of 1998.

The building's lateral force resisting system consists of plywood sheathing at the roof level which acts as a horizontal wood diaphragm spanning between the shear walls. The shear walls are a combination of one-sided and two sided plywood sheathing shear walls.

Both the seismic loads acting in transverse and longitudinal direction are resisted by exterior shear walls. All shear walls in both directions were found to be adequate.

Based on the ASCE tier 1 analysis, Building 2 does not have any deficiencies. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 1**

Building # 3:

The building denoted on the key plan as # 3 is a single story wood framed building with an original construction date in the early 1950s and an addition/remodel construction date of 1998.

Very little information was found on the structure. The analysis was performed based on the design of similar buildings as well our visual inspection and whatever drawings were available.

The building's lateral force resisting system consists of diagonal sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The shear walls are diagonal sheathing.

The seismic loads acting in north-south direction (transverse) are resisted by one-sided diagonal sheathing exterior and interior shear walls. All shear walls in this direction were found to be adequate. The seismic loads acting in east-west direction are resisted by exterior

one-sided diagonal sheathing shear walls. All shear walls in this direction were found to be inadequate.

Based on the ASCE tier 1 analysis, Building # 3 has deficiencies.

1. The exterior walls in the transverse direction do not meet the shear stress check. Provide plywood sheathing with nailing at 3" o.c. to the inside face of subject walls.

2. The North and South walls have openings greater than 80% of the length which do not meet the 1.5 to 1 aspect ratio. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 3**

Building # 4:

The building denoted on the key plan as # 4 is a single story wood framed building with an original construction date of 1976.

The building's lateral force resisting system consists of plywood sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The shear walls are constructed with plywood sheathing.

Both the seismic loads acting in transverse and longitudinal direction are resisted by exterior and interior shear walls. All shear walls in both directions were found to be adequate.

Based on the ASCE tier 1 analysis, Building # 4 does not have any deficiencies. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 1**

Building # 5:

The building denoted on the key plan as # 5 is a single story wood and steel framed building with an original construction date of 1964.

The building's lateral force resisting system consists of plywood sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The original shear walls are plywood sheathing.

Both the seismic loads acting in transverse and longitudinal direction are resisted by exterior shear walls. All shear walls in both directions were found to be adequate.

Based on the ASCE tier 1 analysis, Building # 5 does not have any deficiencies. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 1**

Building # 7:

The building denoted on the key plan as # 7 is a single story wood and steel framed building with an original construction date of 1960.

The building's lateral force resisting system consists of plywood sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The shear walls are plywood sheathing.

The seismic loads acting in transverse direction are resisted by one-sided plywood sheathing exterior shear walls. All shear walls in this direction were found to be adequate. The seismic

loads acting in the longitudinal direction are resisted by exterior two-sided plywood sheathing shear walls. All shear walls in this direction were found to be inadequate.

Based on the ASCE tier 1 analysis, Building # 7 has the following deficiency:

1. The exterior walls in the longitudinal direction do not meet the shear stress check. Provide plywood sheathing with nailing at 3" o.c. to both sides of subject walls.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 3**

Building # 8:

The building denoted on the key plan as 8 is a single story wood framed building with an original construction date of 1954 and an addition/remodel construction date of 1998.

Very little information was found on the structure. The analysis was performed based on the design of similar buildings as well our visual inspection and whatever drawings were available.

The building's lateral force resisting system consists of plywood sheathing at the roof level which acts as a horizontal wood diaphragm spanning between the shear walls. The shear walls are one-sided and two sided plywood sheathing shear walls.

Both the seismic loads acting in transverse and longitudinal direction are resisted by exterior shear walls. All shear walls in both directions were found to be adequate.

Based on the ASCE tier 1 analysis, Building 8 does not have any deficiencies. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 1**

Building # 9:

The building denoted on the key plan as # 9 is a single story wood framed building with an original construction date of 1954 and an addition/remodel construction date of 1998.

Very little information was found on the structure. The analysis was performed based on the design of similar buildings as well our visual inspection and whatever drawings were available.

The building's lateral force resisting system consists of diagonal sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The original shear walls are diagonal sheathing and the new shear walls are plywood sheathing.

The seismic loads acting in north-south direction (transverse) are resisted by one-sided diagonal sheathing exterior and interior shear walls. All shear walls in this direction were found to be adequate. The seismic loads acting in east-west direction are resisted by exterior one-sided diagonal sheathing shear walls. All shear walls in this direction were found to be inadequate.

Based on the ASCE tier 1 analysis, Building # 3 has deficiencies.

1. The exterior walls in the transverse direction do not meet the shear stress check. Provide plywood sheathing with nailing at 3" o.c. to the inside face of the subject walls.

2. The North and South walls have openings greater than 80% of the length which do not meet the 1.5 to 1 aspect ratio. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 3**

Building # 10:

The building denoted on the key plan as # 10 is a single story wood framed and steel cantilevered column building with an original construction date of 1960, an addition with a construction date of 1962 and a remodel with a construction date of 1993.

No information was found on the 1962 addition. Based on visual inspection we assumed that the addition is a mirror image of the existing structure.

The building's lateral force resisting system consists of diagonal sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls and cantilevered columns. The shear walls are diagonal sheathing.

The seismic loads acting in transverse direction are resisted by one-sided and two-sided diagonal sheathing exterior shear walls. All shear walls in this direction were found to be adequate. The seismic loads acting in the longitudinal direction are resisted by a cantelivered steel column. The lateral force resisting system in this direction was found to be adequate.

Based on the ASCE tier 1 analysis, building 10 does not have any deficiencies. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 1**

DK (District Kitchen):

The building denoted on the key plan as DC is a single story wood framed building with an original construction date of 1998.

The building's lateral force resisting system consists of plywood sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The original shear walls are plywood sheathing.

Both the seismic loads acting in transverse and longitudinal direction are resisted by exterior shear walls. All shear walls in both directions were found to be adequate.

Based on the ASCE tier 1 analysis, the District Kitchen does not have any deficiencies. No retrofits are required at this time. In addition we visited the site to inspect the buildings foundation with respect to differential settlement and cracking of the slab and foundation. We did not find any significant evidence of structural cracking or signs differential settlement of the buildings slab or foundation.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 1**

Gymnasium:

The building denoted on the key plan as Gymnasium is a single story wood, light gage and steel framed gymnasium building with an original constructed date 1993.

The building's lateral force resisting system consists of plywood sheathing at the roof level which acts as a horizontal wood diaphragm spanning between steel braced frames. The braced frames consist of wide flange and tube sections.

Both the seismic loads acting in transverse and longitudinal direction are resisted by exterior and interior braced frames. All frames in both directions were found to be adequate.

Based on the ASCE tier 1 analysis, the Gymnasium does not have any deficiencies. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this

report.

**This building receives a subjective rating of 1**

DW 1 (District Warehouse 1):

The building denoted on the key plan as DW 1 is a single story steel framed building with an unknown original and remodel construction date.

No information was found on the structure. We evaluated the building based on visual inspection and our experience with similar buildings.

The building's horizontal lateral force resisting system consists of steel tension rods at the roof level, which transfers the loads into the vertical lateral force resisting system.

The building's vertical lateral force resisting system in the transverse direction consists of steel moment frames. All moment frames in this direction were found to be adequate. The building's vertical lateral force resisting system in the longitudinal direction consists of steel tension rods and moment frames.

Our inspection of the structure revealed that tension rods on both longitudinal walls have been removed from the structure to accommodate new openings. In addition the moment frames in this direction were found to be inadequate to resist the anticipated seismic loads.

Based on the ASCE tier 1 analysis, DW 1 has one deficiency.

1. The lateral force resisting system in the longitudinal direction is not adequate. We recommend that tension rods be installed on the two longitudinal walls to provide adequate lateral force resistance.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 3**

DW 2 (District Warehouse 2):

The building denoted on the key plan as DW 2 is a single story wood and steel framed building with an unknown original and addition construction date.

No information was found on the structure. We evaluated the building based on visual inspection and our experience with similar buildings.

The building's horizontal lateral force resisting system in the original portion consists of steel tension rods at the roof level, which transfers the loads into the vertical lateral force resisting system.

The original building's vertical lateral force resisting system in the transverse direction consists of steel moment frames. All moment frames in this direction were found to be adequate. The building's vertical lateral force resisting system in the longitudinal direction consists of steel tension rods. All tension rods in this direction were found to be adequate.

Based on the ASCE tier 1 analysis, the original portion of DW2 does not have any deficiencies. No retrofits are required at this time.

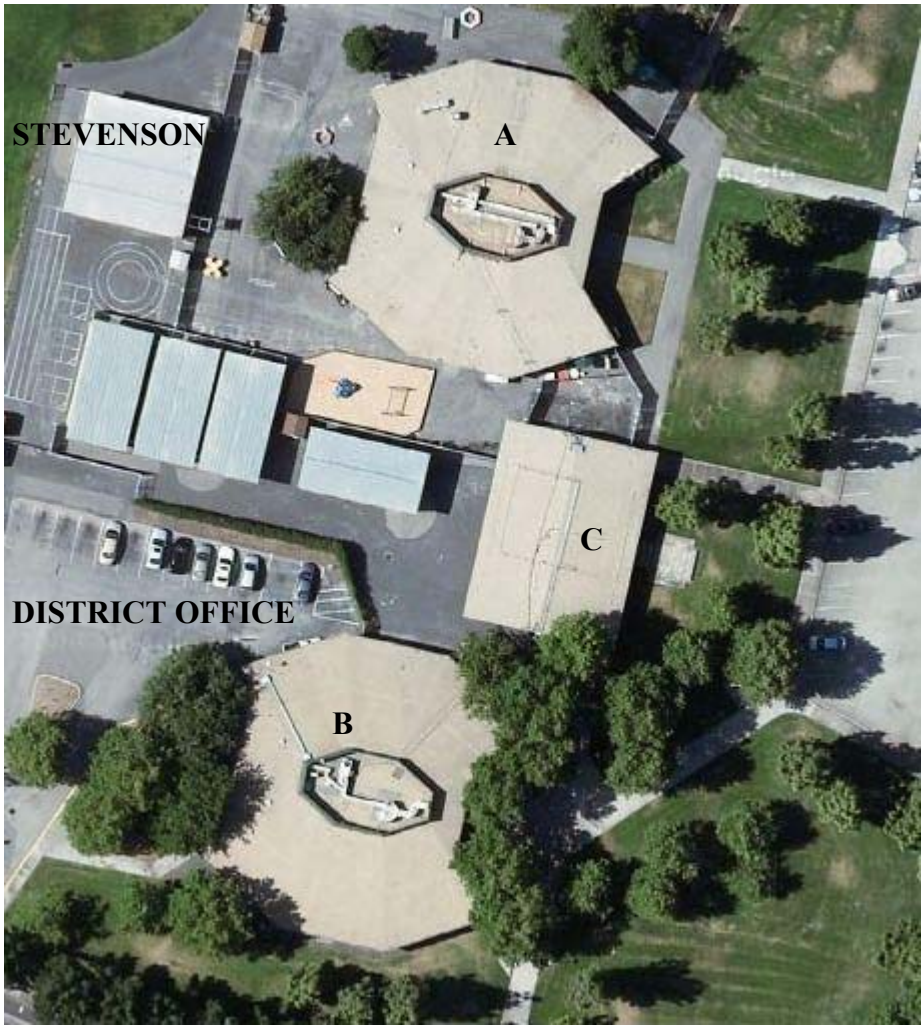
The addition does not have a lateral system.

Based on the ASCE tier 1 analysis, the addition of DW 2 has deficiencies. There is no lateral force resisting system. We recommend that plywood be added all four sides of the addition to provide an adequate lateral force resisting system.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 3**

## 9.0 STEVENSON & DISTRICT OFFICE




**Key Plan**

Buildings Descriptions:

Building A:

The building denoted on the key plan as A is a single story wood framed building with a construction date of 1964.

The building's lateral force resisting system consists of plywood sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The shear walls are plywood sheathing.

The seismic loads acting in both directions are resisted by one-sided plywood sheathing exterior shear walls. All shear walls in the North-South direction were found to be adequate. All shear walls in the East-West direction were found to be inadequate.

Based on the ASCE tier 1 analysis, Building A has one deficiency. The exterior walls in the East-West direction do not meet the shear stress check. We recommend adding plywood sheathing with nailing at 3" o.c. to the inside of the subject walls.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 3**

Building B:

The building denoted on the key plan as # 3 is a single story wood framed building with a construction date of 1964.

The building's lateral force resisting system consists of plywood sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The shear walls are plywood sheathing.

The seismic loads acting in both directions are resisted by one-sided plywood sheathing exterior shear walls. All shear walls in the North-South direction were found to be adequate.

All shear walls in the East-West direction were found to be inadequate.

Based on the ASCE tier 1 analysis, Building B has one deficiency. The exterior walls in the East-West direction do not meet the shear stress check. We recommend adding plywood sheathing with nailing at 3" o.c. to the inside face of the subject walls.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 3**

Building C:

The building denoted on the key plan as C is a single story wood framed building with a construction date of 1964.

The building's lateral force resisting system consists of plywood sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The shear walls are plywood sheathing.

The seismic loads acting in the East-West (transverse) direction are resisted by one-sided plywood sheathing exterior and interior walls. All shear walls in the East-West direction were found to be adequate. The seismic loads acting in the North-South (longitudinal) direction are resisted by one-sided plywood sheathing exterior walls. All shear walls in the North-South direction were not found to be adequate.

Based on the ASCE tier 1 analysis, Building C has one deficiency. The exterior walls in the North-South direction do not meet the shear stress check. We recommend adding plywood sheathing with nailing at 3" o.c. to the inside face of the subject walls.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 3**

## 10.0 COOPER


**Key Plan**

Buildings Descriptions:

Building # 1:

The building denoted on the key plan as # 1 is a single story wood framed building with a construction date of 1962.

The building's lateral force resisting system consists of plywood sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The shear walls are plywood sheathing.

The seismic loads acting in both directions are resisted by one-sided plywood sheathing exterior and interior shear walls. All shear walls in the both directions were found to be adequate.

Based on the ASCE tier 1 analysis, Building 1 does not have any deficiencies. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 1**

Building # 2:

The building denoted on the key plan as # 2 is a single story wood framed building with a construction date of 1962.

The building's lateral force resisting system consists of plywood sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The shear walls are plywood sheathing.

The seismic loads acting in both directions are resisted by one-sided plywood sheathing exterior shear walls. All shear walls in the both directions were found to be adequate.

Based on the ASCE tier 1 analysis, Building 2 does not have any deficiencies. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 1**

Building # 3:

The building denoted on the key plan as # 3 is a single story wood framed building with a construction date of 1962.

The building's lateral force resisting system consists of plywood sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The shear walls are plywood sheathing.

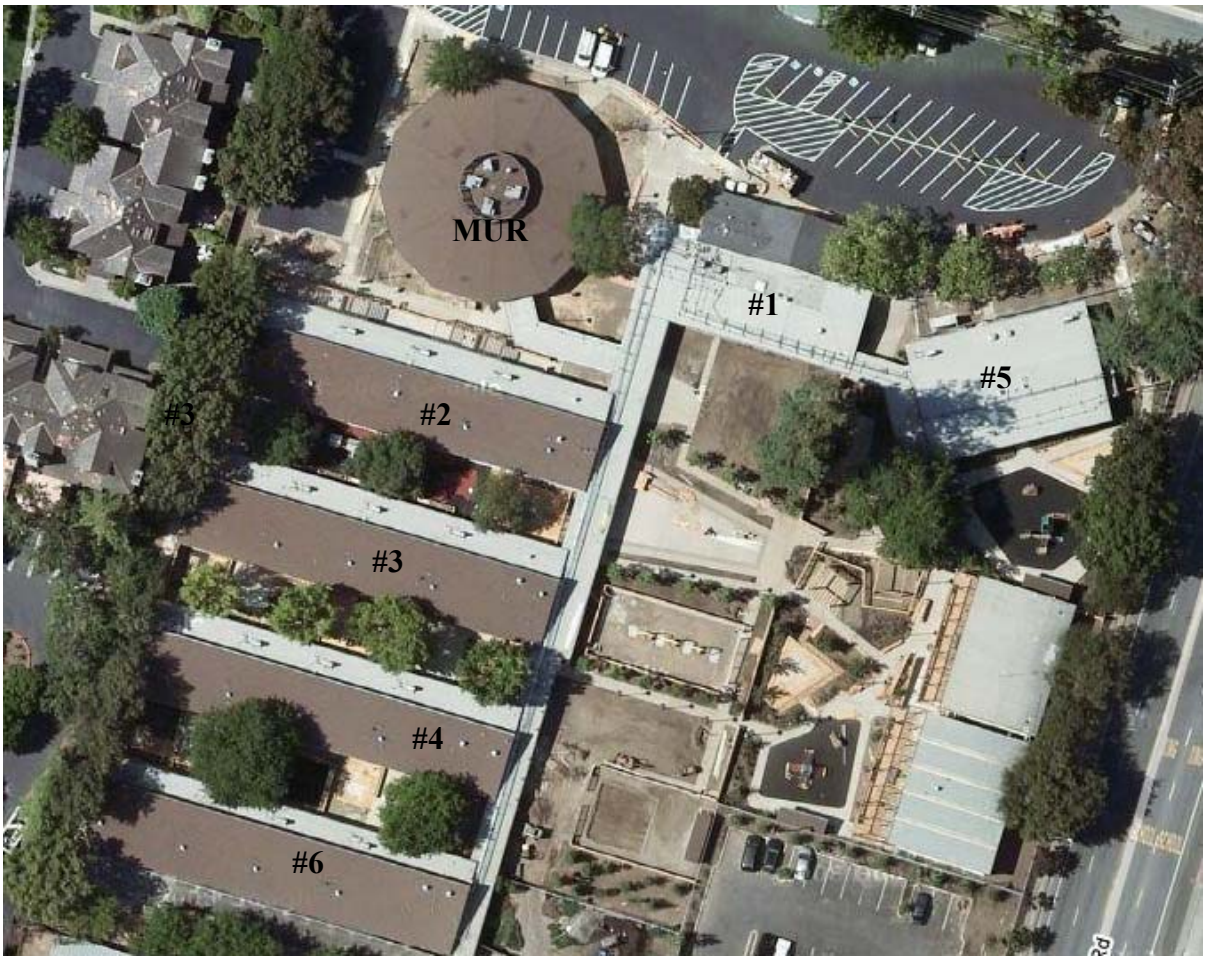
The seismic loads acting in both directions are resisted by one-sided plywood sheathing exterior shear wall. All shear walls in the both directions were found to be adequate.

Based on the ASCE tier 1 analysis, Building 3 does not have any deficiencies. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 1**

## 11.0 SLATER




**Key Plan**

Buildings Descriptions:

Building # 1:

The building denoted on the key plan as # 1 is a single story wood framed building with an original construction date of 1952, and with an addition and remodel constructed in 1992.

The building's lateral force resisting system consists of plywood sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. Both the original and new shear walls have plywood sheathing.

Both the seismic loads acting in transverse and longitudinal direction are resisted by exterior and interior shear walls. All shear walls in both directions were found to be adequate.

Based on the ASCE tier 1 analysis, Building # 1 does not have any deficiencies. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 1**

Building # 2:

The building denoted on the key plan as # 2 is a single story wood framed building with an original construction date of 1952.

The building's lateral force resisting system consists of plywood sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The shear walls have plywood sheathing.

Both the seismic loads acting in transverse and longitudinal direction are resisted by exterior and interior shear walls. All shear walls in both directions were found to be adequate.

Based on the ASCE tier 1 analysis, Building # 2 does not have any deficiencies. No retrofits

are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 1**

Building # 3:

The building denoted on the key plan as # 3 is a single story wood framed building with an original construction date of 1952.

The building's lateral force resisting system consists of plywood sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The shear walls have plywood sheathing.

Both the seismic loads acting in transverse and longitudinal direction are resisted by exterior and interior shear walls. All shear walls in both directions were found to be adequate.

Based on the ASCE tier 1 analysis, Building # 3 does not have any deficiencies. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 1**

Building # 4:

The building denoted on the key plan as # 4 is a single story wood framed building with an original construction date of 1956.

The building's lateral force resisting system consists of plywood sheathing at the roof level,

which acts as a horizontal wood diaphragm spanning between the shear walls. The shear walls have plywood sheathing.

Both the seismic loads acting in transverse and longitudinal direction are resisted by exterior and interior shear walls. All shear walls in both directions were found to be adequate.

Based on the ASCE tier 1 analysis, Building # 4 does not have any deficiencies. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 1**

Building # 5:

The building denoted on the key plan as # 5 is a single story wood framed building with an original construction date of 1956.

The building's lateral force resisting system consists of plywood sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The original shear walls have one-sided and two-sided plywood sheathing.

The seismic loads acting in the longitudinal direction are resisted by exterior and interior shear walls. All shear walls in this direction were found to be adequate. The seismic loads acting in transverse direction are resisted by exterior shear walls. The shear walls in this direction were not found to be adequate.

Based on the ASCE tier 1 analysis, Building # 5 has one deficiency:

1. The shear walls along the transverse direction do not meet the shear stress check.

We recommend adding plywood sheathing with nailing at 4" o.c. to the inside face of the subject walls.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 3**

Building # 6:

The building denoted on the key plan as # 6 is a single story wood framed building with an original construction date of 1959.

The building's lateral force resisting system consists of plywood sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The shear walls have plywood sheathing.

Both the seismic loads acting in transverse and longitudinal direction are resisted by exterior and interior shear walls. All shear walls in both directions were found to be adequate.

Based on the ASCE tier 1 analysis, Building # 6 does not have any deficiencies. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 1**

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MUR:

The MUR is a single story steel building constructed in about 1965 with approximately 4962 square feet of floor area. It consists of a wood framed roof diaphragm and steel wide flange beam and tube steel cantilever columns. The roof diaphragm is supported by the steel beams. The foundation system consists of perimeter continuous footings as well as spread footings beneath the tube steel columns.

For the purposes of the ASCE 31 review, this building was classified at “Steel moment frame with flexible floor and roof diaphragms (S1A).”

**Findings:**

The building was found to have varying conformance to the ASCE 31 guidelines. The greatest deficiencies in this structure are cantilever tube steel columns as well as drift ratios of system. The existing tube steel 8x8 cantilever columns do not have the strength nor the stiffness required to adequately resist the lateral loads expected to occur during an earthquake. This type of construction is also more flexible than other building types and this flexibility can lead to large drifts during an earthquake, causing extensive structural and non-structural damage.

This building does have solid exterior walls that are not currently being utilized as shear walls. To achieve a life-safety performance level for this building, the likely most economical solution is to sheath selected solid exterior walls with plywood to create shearwalls.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 3**

## 12.0 WHISMAN SHOOL


**Key Plan**

Buildings Descriptions:

Building # 1:

The building denoted on the key plan as # 1 is a single story wood framed building with an original construction date of 1988.

The building's lateral force resisting system consists of plywood sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The original shear walls are plywood sheathing.

Both the seismic loads acting in transverse and longitudinal direction are resisted by exterior shear walls. All shear walls in both directions were found to be adequate.

Based on the ASCE tier 1 analysis, Building # 1 does not have any deficiencies. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 1**

Building # 2:

The building denoted on the key plan as # 2 is a single story wood framed building with CMU shear walls and a construction date of 1960.

The building's lateral force resisting system consists of plywood sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The shear walls are 8" reinforced shear walls.

The seismic loads acting in both directions are resisted exterior and interior shear walls. All shear walls in the both directions were found to be adequate.

Based on the ASCE tier 1 analysis, Building 2 does not have any deficiencies. No retrofits

are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 1**

Building # 3:

The building denoted on the key plan as # 3 is a single story wood framed building with CMU shear walls and a construction date of 1960.

The building's lateral force resisting system consists of plywood sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The shear walls are 8" reinforced shear walls.

The seismic loads acting in both directions are resisted exterior and interior shear walls. All shear walls in the both directions were found to be adequate.

Based on the ASCE tier 1 analysis, Building 3 does not have any deficiencies. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 1**

Building # 4:

The building denoted on the key plan as # 4 is a single story wood framed restroom building with an unknown original construction date and with a remodel date of 1960.

The building's lateral force resisting system consists of plywood sheathing at the roof level,

which acts as a horizontal wood diaphragm spanning between the shear walls. The original shear walls are plywood sheathing.

Both the seismic loads acting in transverse and longitudinal direction are resisted by exterior shear walls. All shear walls in both directions were found to be adequate.

Based on the ASCE tier 1 analysis, Building # 4 does not have any deficiencies. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 1**

Building # 5:

The building denoted on the key plan as # 5 is a single story wood framed building with CMU shear walls and a construction date of 1960.

The building's lateral force resisting system consists of plywood sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The shear walls are 8" reinforced shear walls.

The seismic loads acting in both directions are resisted exterior and interior shear walls. All shear walls in the both directions were found to be adequate.

Based on the ASCE tier 1 analysis, Building 5 does not have any deficiencies. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 1**

Building # 6:

The building denoted on the key plan as # 6 is a single story wood framed building with CMU shear walls and a construction date of 1960.

The building's lateral force resisting system consists of plywood sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The shear walls are 8" reinforced shear walls.

The seismic loads acting in both directions are resisted exterior and interior shear walls. All shear walls in the both directions were found to be adequate.

Based on the ASCE tier 1 analysis, Building 6 does not have any deficiencies. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 1**

Building # 7:

The building denoted on the key plan as # 7 is a single story wood framed building with CMU shear walls and a construction date of 1962.

The building's lateral force resisting system consists of plywood sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The shear walls are 8" reinforced shear walls.

The seismic loads acting in both directions are resisted exterior and interior shear walls. All shear walls in the both directions were found to be adequate.

Based on the ASCE tier 1 analysis, Building 7 does not have any deficiencies. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 1**

Building # 8:

The building denoted on the key plan as # 8 is a single story wood framed building with CMU shear walls and a construction date of 1960.

The building's lateral force resisting system consists of plywood sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The shear walls are 8" reinforced shear walls.

The seismic loads acting in both directions are resisted exterior and interior shear walls. All shear walls in the both directions were found to be adequate.

Based on the ASCE tier 1 analysis, Building 8 does not have any deficiencies. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 1**

Building # 9:

The building denoted on the key plan as # 9 is a single story wood framed building with CMU shear walls and a construction date of 1961 with an addition and remodel in 1998.

The building's lateral force resisting system consists of plywood sheathing at the roof level, which acts as a horizontal wood diaphragm spanning between the shear walls. The shear

walls are 12” reinforced shear walls.

The seismic loads acting in both directions are resisted exterior and interior shear walls. All shear walls in the both directions were found to be adequate.

Based on the ASCE tier 1 analysis, Building 9 does not have any deficiencies. No retrofits are required at this time.

The applicable ASCE 31-03 tier 1 checklist sheets are contained under Appendix A of this report.

**This building receives a subjective rating of 1**