

2 Executive Summary

2.1 Existing System and Deficiencies

Known existing utility lines at each school site are presented in Figures 3 through 7 of each Appendix (A, B, C, D) following this report. Deficiencies from site observations and as reported by HCSD staff are summarized below and more fully described in Section 3.

2.1.1 Crocker School

- The gym experiences flooding from the existing storm drain system.
- The gym has water accumulation in the existing gas pipes.
- The main classroom building experiences seepage on the lower level retaining wall in the vicinity of the art classroom.

2.1.2 North School

North school has no known utility deficiencies at the time of this report.

2.1.3 South School

Roots from a redwood tree clog the storm drain system in the parking lot.

2.1.4 West School

The sanitary sewer system lift station that serves the eastern portion of the campus is deficient. Station controls, pumps, and housing are outdated and in need of repairs. The eastern portion of campus is without sewer service during power interruptions.

2.2 New Building Conflicts with Existing Systems

Existing utility system conflicts with proposed buildings are presented in Figures 2 through 7 of each school appendix. Existing utilities to be removed and their lengths are marked on each figure. The proposed layouts for all schools are from the August 22, 2005 Implementation Plan Revision #4.

2.2.1 Crocker School

The Crocker campus has four proposed buildings and two future buildings as part of the HCSD Master Plan.

- The proposed 4,300 square foot Office Building will require water, irrigation, electrical and storm drain line relocations.
- The proposed 23,000 square foot Center for Performing Arts Education (CPAE) building will require relocation of gas, water, irrigation, storm drain, and joint trench with wiring for electrical, fire alarm, clock, and TV lines.
- The proposed 2,100 square foot Science Lecture Hall (near retaining wall) will require storm drain lines to be relocated.
- The proposed 2,100 square foot Technology Center (near the proposed CPAE building) will require storm drain realignment.

2.2.2 North School

The North School campus has two proposed buildings (one standalone building and one addition) and three future buildings, (one new building, two building additions) as part of the HCSD Master Plan.

- The proposed 11,300 square foot office/multipurpose building will require water and sewer relocation as well as joint trench containing electrical, fire alarm, and clock wiring.
- The proposed 520 square foot computer lab addition will require relocation of gas, sanitary sewer and telephone lines depending on the building layout.

2.2.3 South School

South School has one proposed new building and one future building as part of the HCSD Master Plan.

- The proposed 6,500 square foot multipurpose building will require an electrical joint trench to be relocated.

2.2.4 West School

West School has three proposed new buildings and two future buildings as part of the HCSD Master Plan.

- The proposed 2,200 square foot office building will not require utility relocations.
- The proposed 2,000 square foot Exploratorium building will require a cable/telephone joint trench to be relocated.
- The proposed 3,850 square foot classrooms building will require storm drain and irrigation line relocations.

2.3 *Proposed Corridors for Utility Relocation*

Relocation of each utility type is presented in Figures 2-7 of each Appendix. Existing corridors are used when practical. New corridors have been established around the proposed building locations. Areas to be graded and paved were first choices for utility relocation. Each appendix shows relocations of utilities in the new corridors.

2.3.1 Crocker School

New utility corridors are proposed as follows:

- Along the new entrance driveway to the campus east of the existing gymnasium.
- Between the tech center and science buildings.
- Between the office building and the multipurpose building.
- Adjacent to the south and north sides of the CPAE building.
- Between the CPAE and the existing gymnasium.

2.3.2 North School

A new utility corridor is proposed at the southwest side of campus for a fire protection line.

2.3.3 South School

No new utility corridors are planned for South School.

2.3.4 West School

New utility corridors are planned for West School as follows:

- Between existing classroom buildings and the proposed Exploratorium.
- Between existing classroom buildings and the proposed classroom building.

2.4 Best Management Practices

Best Management Practices (BMPs) are presented to show the extent of measures to mitigate the increase in runoff due to the proposed improvements, if any. Exact BMP locations and sizing should be part of the final improvement plans for each school site. Any Bioswales noted below are designed to meet the C.3 stormwater runoff treatment requirement required by the governing National Pollutant Discharge Elimination System (NPDES) permit. Such Bioswales are designed to treat the treatment rainfall event of 0.2 inches/hour.

2.4.1 Crocker School

A Bioswale for the Crocker School site is presented in Table 7. The swale dimensions are 183 feet long and 5.1 feet wide.

2.4.2 North School

The exact configuration of the Bioswale will be determined as the site improvements are designed.

2.4.3 South School

There is no net increase in impervious surface, so a Bioswale is not required.

2.4.4 West School

The exact configuration of the Bioswale will be determined as the site improvements are designed.

2.5 Off-Site System Capacity Impacts

2.5.1 Crocker

Mitigation for increase in storm water runoff due to an increase in impervious surface area is proposed in the form of a Bioswale 183 feet long and 5.1 feet wide for the Crocker campus (as mentioned under section 4.3.2 BMP Recommendations.) A detention area of 1,800 cubic feet of volume is proposed for the purpose of detaining the peak storm event to mitigate off-site peak flows. With these two on-site mitigations, the proposed on-site Master Plan improvements do not require modifications to off-site utility systems.

The off-site widening of Ralston Avenue will require connection to the local public storm drain system. A Bioswale is also proposed to parallel a portion of Ralston Avenue because of the increase in paved area.

2.5.2 North School

The proposed Master Plan improvements do not require modifications to off-site utility systems.

2.5.3 South School

The proposed Master Plan improvements do not require modifications to off-site utility systems.

2.5.4 West School

The proposed Master Plan improvements do not require modifications to off-site utility systems.

2.6 *Schedule of System Upgrades*

School utilities are identified by type, date, size, and the corresponding record drawings provided to BKF. The system upgrade Tables in each Appendix tabulate the replacement schedule. Replacement dates are generated on the basis of optimal conditions for the existing utilities. Most materials identified in the record drawings are expected to have a long lifespan. Therefore the recommendations for replacement are based primarily on the need for relocation rather than exceeding the lifespan of the pipe materials.