



MORE THAN ARCHITECTS

August 5, 2015

Cannon E.S. Facility Analysis

This report is intended to outline the concerns and document the details of Cannon Elementary School with a focus on recent challenges of the existing building and potential future use of the facility.

Cannon E. S. Data

Below are the approximate square footages and years of construction for Cannon E. S. Attached at the back of this report is a map reflecting this information.

1959 Original Building	35,800 sf
1979 Addition	9,000 sf
1988 Addition	21,000 sf
1995 Addition	2,200 sf
2000 Addition	1,000 sf
<u>2008 Addition</u>	<u>7,600 sf</u>
Total	76,600 sf

2005 Bond

As a part of the 2005 Bond, a 6 room, classroom wing addition was constructed on the north side of the facility at the west end of the building. This addition was to provide science lab and 5th grade classroom space as well as restrooms, storage, technology and maintenance areas. Approximately \$3,000,000 was spent towards this work.

2011 Bond

As a part of the 2011 Bond, minor renovation work was performed to include the removal of unused mechanical equipment, re-sealing the building's joints and around windows and doors, replacing aging exterior doors and windows, providing DDC lighting controls for exterior lights and replaced the fire alarm control panel. The major scope of this work was the re-roofing of the majority of the building. Approximately \$1,500,000 was spent towards this work.

Floor Movement

Visible signs of slab movement were detected and in 2012 sub-slab injections were performed by Uretek in two classroom areas. In 2014 signs of settling in these same areas were detected. Floor elevation surveys were performed and measured on two different dates, May 30th, 2014 and November 3rd, 2014. A map of these two surveys, with data points, as provided by GCISD is attached at the back of this report. In January of 2015, Alpha Testing, Inc. provided a report of the geotechnical exploration of the affected areas of the facility. This report, included within, provided field exploration, laboratory testing and an engineering interpretation of the results. Based on the data in the Alpha Testing report and the

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two floor surveys provided by GCISD, we recommend that floor surveys be done periodically, to continue to monitor and report any movement that would be significant enough to require a response to address any ADA or safety issues. These surveys of the floor elevation should be performed at three to six month intervals.

In February of 2015, Uretex was asked to provide a proposal to fix the two areas previously injected as well as a proposal for an additional area. Those proposals are also included at the back of this report.

Analysis & Options

The original portion of Cannon E.S., built over fifty years ago, has exceeded the life expectancy of a building that age. In addition, the education adequacy of the spaces, in terms of square footages and utilities, do not meet the baseline requirements of those set forth by TEA or current design standards. The ultimate desired use of the building also has a major impact on how to address the facility moving forward. For this report, three possible options for the use of the building have been considered.

1. Elementary School – This option would require that if the facility was renovated that the square footages be brought into educational adequacy. It would be recommended to enhance the learning environment with improved infrastructure specific to electrical/data services.
2. Pre-K Center – In this scenario the educational inadequacies of square footages, electrical & data would also need to be addressed. In addition, providing restrooms to each Pre-K classroom would also need to be resolved. This would require that sanitary sewer upgrades be made to handle the additional service. This becomes a very extensive and destructive process to retrofit into a current shell of a building.
3. STEM Academy – Similar to the other options, educational inadequacies would need to be addressed. Design of STEM spaces would also be handicapped if attempting to renovate within the existing footprint, ultimately providing in an overall reduction of capacity for the current facility. The introduction of labs, and potentially wet labs, could also impact the infrastructure of buildings utilities.

Opinion of Probable Costs

Outlined below are four options to consider when addressing the performance of the building and in particular, the original portions of the building. Ranges of costs, reflected in today's dollars, have been identified for each scenario. The ranges are broad enough to account for the three types of use of the building that may be desired. These costs are presented in terms of current market construction value. If a determination of use and timeline is provided, then additional percentages for soft costs and construction market escalation would need to be included.

Option 1 – Maintain Existing Conditions - \$1,500,000 – \$3,000,000

Provide on-going floor surveying and continuous corrections being made in response to the performance of the building. Because of the unknown scenarios that could happen, this option

is the most difficult to provide an opinion of probable cost over any given length of time. Anticipating a reasonable amount of repair and examination over the course of 7-10 years has been considered. This option is best suited for staying with the current use of the building as a traditional elementary school. Life expectancy of the building remains the same as today, unknown. Interruption of curriculum is undetermined and becomes a resultant of any change in condition.

Option 2 – Replace Existing Slab and Renovate within Current Building - \$10,000,000 – \$12,000,000

This option requires some intense demolition of the existing slab, treatment of the subsurface conditions and placing back a new slab properly supported. This is a very precise and calculated method that would be time intensive. The structural shell of the building would remain and redesigning areas with the existing portions would be restrictive. This option provides limited flexibility of reconfiguring class sizes and room layout. Although any desired use could be adapted within this option, the most favorable would either be a traditional elementary use or a Pre-K facility. Choosing to utilize the building as a Pre-K or STEM facility could negatively impact the overall capacity of the building. Life expectancy of the original building is extended, but difficult to precisely predict. Maybe 10-15 years. Interruption of curriculum is significant, most likely impacting at least half of the school year.

Option 3 – Demolition of Original Building and Build New Additions - \$11,000,000 – \$14,000,000

The demolition of the original building provides many opportunities to explore new uses of the facility, thus allowing for any of the potential uses identified. The use would dictate the size of facility required and is the primary factor contributing to the range in cost. Restrictions to this option are evident in the location of the salvageable portions of the building. Building a campus that reconnects all the serviceable portions of the building is achievable, but could limit the design options. Life expectancy of the new additions provides a 50 year building. Interruption of curriculum is significant and would most likely impact an entire school year.

Option 4 – Build New Facility - \$16,000,000 – \$18,500,000

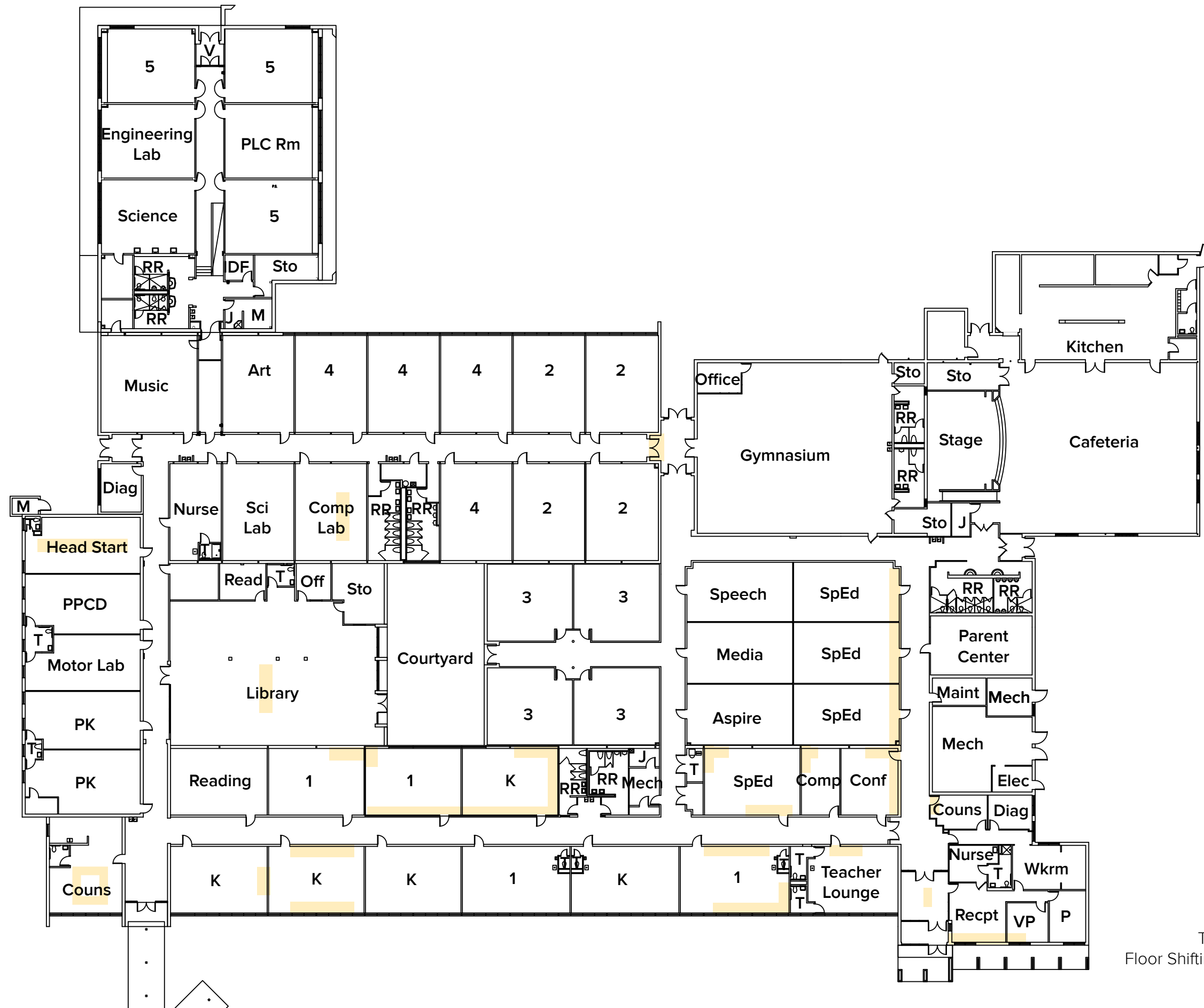
This option provides the least amount of restrictions and any of the proposed uses could be achieved. Life expectancy would provide a 50+ year facility. Interruption of curriculum could be minimal or significant. Design options could be explored to utilize the site and build new while maintaining the current space (no interruption) to phasing a rebuild plan that may impact up to an entire school year.

We look forward to continuing to explore options and solutions with you for Cannon Elementary School.

Sincerely,



Tim McClure, AIA
Principal
Huckabee



Trip Hazards/
Floor Shifting Identified





Floor Level Readings
as of 5/30/14



Floor Level Readings
as of 11/3/14