FACILITIES ANALYSIS

SCHOOL DISTRICT OF WISCONSIN DELLS

WISCONSIN DELLS, WI

JUNE 14, 2021

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Architectural Design Consultants, Inc.

PROJECT

Facilities Analysis

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INTRODUCTION & PURPOSE

Introduction & Purpose

Since the building of Wisconsin Dells School District's new high school set changes in motion to other buildings in the district, this report assesses the current conditions of the other four buildings and recommendations for their continued adapted uses and facility needs. A previous report was created in 2015 and this report gauges progress, updates, and prioritizes recommendations for maintenance and future capital improvements.

The team composing the report consisted of two architects and an interior designer from Architectural Design Consultants, Inc. as well as two engineers from Design Engineers in Madison. We wish to thank the District staff, especially Scott Walsh, for the cooperation in providing background data, the perspective and expertise on the buildings, and the continued diligence in maintaining the District Buildings.

Buildings Reviewed

The review included four buildings:

- Administration Building
- Lake Delton Elementary School
- Spring Hill Elementary School
- Wisconsin Dells Middle School

Excluded from the review were outbuildings, bus buildings, athletic fields, and roofs.

Building Review Categories

Each building review is organized into six main areas:

- Summary of Findings
- Site & Grounds
- Building Envelope
- Building Interior
- General Building Code (Existing Conditions)
- Building Systems (Plumbing, HVAC, Electrical & Fire Protection)

While spot measurements are periodically noted, the review did not involve exhaustive field measurements of existing conditions.

Executive Summary

The ***School Buildings,*** in general vary by a wide margin across the district as they do when compared to other schools across Wisconsin. Continued use results in the need for continued maintenance and some building components and systems are well past their useful lifetimes. The school buildings immediate needs vary by building and the development of a short and long term plan should be done for each building. Examples would include updating cabinetry which is worn and creates splinter hazards, upgrading accessibility items, and updating aged Mechanical, Electrical, and Plumbing items. As the middle school continues to re-purpose spaces which were previously high school use, continued planning and investment will be necessary.

The ***Administration Building*** poses a risk. The poor indoor air quality was immediately evident when entering the building and prioritized consideration should be directed to evaluating mold, mildew, and ventilation. ASHRAE has specific testing that can be done for sick building syndrome and if the building is not razed, a study should be done. Given the decay, deterioration, active roof leaks, poor ventilation, and accessibility limitations, we recommend razing the building and erecting another with updated technology, adequate storage, proper accessibility, and better health.

The ***Pandemic of 2020*** has challenged architects and engineers across the world with finding creative recommendations for social distancing, distance learning, and better indoor air quality. Should the school district wish to invest in better indoor air quality some ideas include:

- Replace the unit ventilators in the Middle School with a different *system*.
- Replace the original AHUs in the Middle school with new AHUs.
- Replace the furnaces and air handling units at Lake Delton Elementary.
- Verify that all units are receiving adequate outdoor air amounts.
- Increase filtration efficiency at all air moving units to be MERV 13. Note that these filters cost more and due to added resistance, could results in a slight reduction of airflow initially with a more pronounced reduction in airflow over the life of the filter as it traps particles. To avoid the reduction in airflow over time, the filters would need to be changed more often. Also note that increased filtration efficiency with a corresponding significant drop in airflow offsets some of the benefits of the filtration efficiency since the circulation/turnover of air is an important component to ensure the air in the room passes through the filter frequently. Thus, regular replacement of the filters is very important.
- Add needlepoint bipolar ionization systems to all air moving units. This will improve some aspects of IAQ, such as reduction of odors, but it's effectiveness on airborne pathogens is still an open question. We would recommend additional discussion related to this item prior to implementing.
- Convert all areas with pneumatic controls to DDC.
- Replace the boilers and heating water pumps at Lake Delton Elementary and add redundancy.

- All equipment in the Admin Building is old and could use replacement.

EXISTING FACILITIES SURVEY