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CARDEROCK SPRINGS ELEMENTARY SCHOOL



Carderock Elem. Sch.
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**FACULTY ADVISER:
DR. CHRIS MAGENT**

JOSEPH HIRSCH
CONSTRUCTION MANAGEMENT
BREADTH STUDIES

H. APPENDIX 1 – Breadth Studies

Structural:

A structural breadth will be demonstrated in the switching of a CMU load bearing walls to structural steel columns in Analysis 3. In order to make this switch I will have to calculate loads and size structural beams and columns to support the roof over large open areas with long span joists. Also incorporated in this will be the schedule and cost differences of this switch. It is expected that the switch will be cheaper and faster the build than the CMU load bearing system.

Mechanical/Electrical:

A mechanical breadth will be demonstrated through the implementation of solar water heating and rain water reclamation system. The addition of these systems will require the building to have additional water pump requirements and different heating load requirements for the water. Solar panels will decrease electrical load and will also decrease the size of water heaters. The reduction of water from the utility will also be calculated which can result in different requirements for the utility connection. This breadth will be demonstrated in the sizing of water pumps, piping, and size of the rain water storage system for the building.