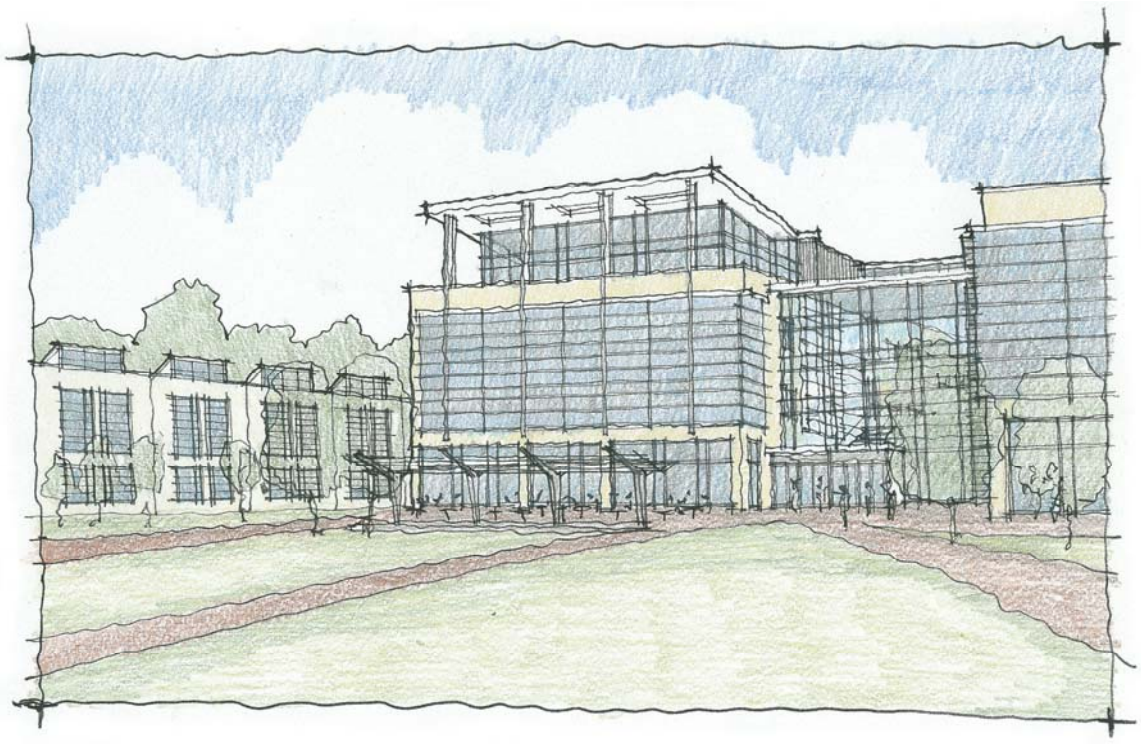
# STUDENT SERVICES BUILDING
# HOWARD COMMUNITY COLLEGE
# COLUMBIA, MD

TECHNICAL ASSIGNMENT #3
MECHANICAL SYSTEMS EXISTING CONTIDITONS EVALUATION



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Mechanical Option
November 21, 2005

## EXECUTIVE SUMMARY:

The overall design goal for the mechanical systems is energy conservation. Therefore ASHRAE Standard 90.1 is adhered to in addition to other energy conservation techniques. The chilled and condenser water is provided by a stand-alone chilled water plant since campus chilled water service is not available. This plant is located in the basement level mechanical room and linked to the chilled water plant in the basement mechanical room of the adjacent Arts Building. This allows for select loads in each building to remain uninterrupted in the event of a failure of one plant. Since campus steam is not available, there is a heating water system located in the basement mechanical room and will be operating year round to meet the required heating loads. Two 3100MBH hot water boilers are used to meet these demands. Each boiler will be able to operate on natural gas and No.2 oil. The heated water is supplied at 200°F and returned at 160°F. Six air handling units are utilized to meet the required building loads and ventilation requirements. The air handling units are ducted to air terminal units which service each zone. Supplemental fin tube radiant heaters are also used around the perimeter walls to maintain thermal comfort near the windows.