FACILITY AUDIT REPORT
BAKER SYSTEMS ENGINEERING, Bldg 280
MAY 26, 1994

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EXECUTIVE SUMMARY AND PROJECT LIST FOR
BAKER SYSTEMS ENGINEERING BUILDING

This 26-year-old building is in good condition with a few exceptions. The exterior is in good condition and was recently cleaned and resealed. Interior finishes are sturdy but are beginning to show some signs of age. The building sustains high levels of traffic and the stairways and lower stairway walls require attention. The roof is original and while there have been few leaks, the cover is beginning to deteriorate requiring replacement within the next five years. The elevators located in this building are heavily utilized. The Department of Physical Facilities has proposed a project to upgrade and modernize them.

The main problem with this building has been the poor cooling of the central areas. This has resulted from an increased heat load from added computers exacerbated by energy conservation measures that reduced air flow and an insufficient supply of chilled water. Plans should be made to utilize the central chilled water plant being planned for the School of Business Complex or to replace the existing absorption chiller with a new centrifugal system. Air flow can then be increased to the interior sections of the building which have been undercooled.

PROPOSED MAINTENANCE PROJECTS:

A. Corrective Maintenance Projects:		**Control #**
1. Waterproof Mechanical Room Floor.....	$25,000	0409
2. Paint stairways & clean hallway ceilings.....	22,350	2279
3. Upgrade/Modernize Elevators ...	$210,000	1950
Sub Total	**$257,350**	
B. Building Improvement/Addition Project:		
1. Increase chilled water supply and air-handling capacity	$215,000	2280
Sub Total	**$215,000**	
C. Projected (over the next 5 yrs) Component Replacement Projects:		
1. Replace built-up roofing.....	$108,200	2281

Total cost for estimated projects = $580,550

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GENERAL BUILDING INFORMATION

BAKER SYSTEMS ENGINEERING #280

BUILDING ADDRESS: 1971 NEIL AVENUE

GROSS SQ. FT.: 114,888

NET ASSIGNABLE SQ. FT.: 70,404

MECHANICAL/CUSTODIAL AREA SQ. FT.: 16,690

YEAR OF CONSTRUCTION: 1968

YEAR OF LAST RENOVATION: N/A

NUMBER OF STORIES/BASEMENT: 6 FLOORS AND A BASEMENT

AIR CONDITIONING (Percentage): 85%

CURRENT USE: OFFICES, CLASSROOMS, LABS AND COMPUTER OPERATIONS

TYPE OF CONSTRUCTION: REINFORCED CONCRETE FRAME WITH MASONRY EXTERIOR

ESTIMATED REPLACEMENT COST: 17,266,000 *

WHEELCHAIR ACCESSIBILITY: MAIN ENTRANCE AT THE SOUTH EAST CORNER IS AT GRADE LEVEL. THREE ELEVATORS ALLOW ACCESS TO ALL FLOORS.

OVERALL BUILDING CONDITION: SATISFACTORY**

NUMBER OF EXIT STAIRWAYS: 3

* Replacement Cost assigned Jun, 1993 by The Office of Campus Planning and Space Utilization.

** Office of Campus Planning and Space Utilization C-1 Report Condition Code.

BUILDING SYSTEMS INFORMATION

BAKER SYSTEMS ENGINEERING # 280

HEATING:
Source STEAM FROM THE UNIVERSITY POWER PLANT TO LOCAL CONVERTERS
Type Heating System HOT WATER
Steam (Line size, valve location) 4" SUPPLY & 3" COND RETURN, 064M
Building Htg Water (line size, valve location) LOCAL CONVERTERS IN 544M

VENTILATION SYSTEM:
MODIFIED DDHV-MOST OF BLDG, SINGLE DUCT LIQUID CHILLED, SPLIT DX SYSTEMS
COOLING:
Bldg % 85 Chillers 173 T ABSORPTION, 175T ELECTRIC CENTRIFUGAL
Window Units 0 Thru-the-wall 0 Direct exp. units 8

HVAC CONTROL SYSTEM:
CENTRAL DIRECT DIGITAL CONTROL (CSI 7700)

ELECTRIC: Source Size(KVA) Primary/Secondary Switchgear & Main Disc. (Rm)
1. BUCKEYE PGN5/PGS5 750 13,200/(208/120) 060M
2. BUCKEYE PGN5/PGS5 750 13,200/(240 DELTA) 060M

PLUMBING:
Water (size, valve location) 6", 064M
Gas (size, valve location) 2", 064M
Domestic Hot Water (size, valve location) 3" SUPPLY, 1-1/4" RETURN, 064M
Compressed Air (size, location) 1-1/2", 064M

SEWERS: Storm 12" Sanitary 8"

METERS:
Gas (size, location) N/A
Water (size, location) 6", 064M
Electric (location) 060M

ALARM SYSTEMS:
Fire Alarm YES Panel Location 060M
Fire Pump YES Pump Location 064M
Sprinklers NO Panel Location N/A
Other Alarms SECURITY SYSTEMS

ELEVATORS:
Number 3 Type (passenger, freight) 2 PASSENGER, 1 FREIGHT
Manufacturer OTIS Size 2 @ 51" X 80", 1 @ 95" X 65"

EMERGENCY GENERATOR: Size N/A Location N/A

KEY BOX LOCATION: INSIDE EAST DOOR ON NORTH SIDE OF BUILDING

ASBESTOS SURVEY (1986):
LIMITED TO PIPE INSULATION IN THE MECHANICAL ROOMS AND CONDENSATE TANK INSULATION.

BAKER SYSTEMS ENGINEERING BUILDING NARRATIVE

HISTORY

Baker Systems Engineering Building construction was completed in 1968. Principal occupants include the Department of Industrial Systems Engineering and Academic Computing Services. The building was designed and built to house a computer center, offices, Industrial Engineering laboratories and classrooms. Its principle function has not changed since completion although the amount of space devoted to computing has increased. Facility use by category is: 39% data processing and computer centers, 28% office and office-related use, 17% mechanical/custodial/toilet, and 16% classroom or miscellaneous uses.

PRIMARY SYSTEMS

The five-story structure is supported by concrete piers and caissons. Concrete footers support non-load-bearing walls. Cast-in-place concrete columns support concrete floors throughout. The exterior consists of concrete blocks with a brick, precast concrete and limestone veneer. The roof deck is structural concrete with a layer of tapered light-weight insulating concrete on it.

The building roof cover is original. There are a large number of blisters over the penthouse. There are also a number of blisters over the rest of the roof. The amount of equipment on the roof implies heavy foot traffic. While there have not been many reported roof leaks, the age, condition and foot traffic on this roofs warrants a roof replacement project. The project should be accomplished within the next five to ten years.

The exterior of the building has been recently cleaned, sealed and recaulked and is in good condition.

Most of the building glazing is fixed-pane. There are a small number of double-hung units on the north side of the first floor. While the windows are all single pane, the total surface area is limited.

SECONDARY SYSTEMS

Interior partition walls are composed of concrete block or metal stud and drywall walls. Surface finishes are generally in good condition and consist primarily of paint on the concrete block and drywall. The interior of the stairwells requires repainting.

The primary floor covering in the building is vinyl tile. The restroom tile floors require cleaning but floors are generally in good condition otherwise. There have been several leaks in the penthouse. The floor is this area is not waterproof. The Department of Physical Facilities has a proposed project to install an elastomeric membrane with an epoxy surface to seal the floor in this area.

Ceilings are predominantly suspended acoustical tile. The restroom ceilings are drywalled. The ceiling in the building lobby on the first floor is dirty as are most of the diffusers and light fixtures in the first floor hallways. They require cleaning. The grids are beginning to yellow and it is particularly noticeable next to the extended hallway at the Dreese Lab addition. The hallway ceilings on the first and second floors should be cleaned and tiles replaced as needed. We are proposing a combined interior finishes maintenance project to clean and replace ceilings as needed on the first and second floors and paint the stairway walls from

the basement to the fifth floor. The ceilings are generally in better condition on the higher floors.

SERVICE SYSTEMS

The building has two passenger elevators and one freight elevator. All three elevators are well utilized with the two passenger elevators being highly utilized. The interiors are in poor condition, there have been a large number of complaints about elevator service and the cars do not meet present code for communications and safety. The Department of Physical Facilities has proposed a project to upgrade and modernize all three elevators.

Most of the building is heated and cooled by a dual duct high velocity system. Air flow was reduced in the late 70's and several interior areas were converted to a variable air volume system. One of the original nine air handlers has been removed and another air handler is no longer used. One of the two original steam absorption chillers was replaced in 1980 with an electric centrifugal chiller to reduce operating costs. The remaining absorption chiller is no longer used and has not been operated in several years according to maintenance personnel.

The heat load in the building has increased steadily since it was built as the number of computers has increased. As a result, a number of single zone direct expansion systems have been added to provide cooling for computer labs and operations rooms. Occupants and maintenance personnel reported interior spaces are often stuffy and hot, particularly classrooms on the second and third floors. Additional air volume and cooling is required in these areas. Maintenance personnel have commented that while air flow can be increased, there is not a large enough supply of chilled water in the building to handle the additional cooling load. The remaining absorption chiller should be replaced with another 175-ton centrifugal chiller or the building should be added to the central chilled water loop being planned for the College of Business Complex to increase cooling capacity.

The cooling towers were replaced in 1980. Building HVAC systems are controlled by a Direct Digital Control system. No problems were found with either system.

Heating hot water is supplied by four steam converters. Two steam converters in the basement supply heating hot water for a limited radiation system and unit heaters. The two in the penthouse supply the hot water coils in the air handlers.

Domestic hot water is supplied from the University power plant. Supply is adequate. There were no major plumbing problems identified in the maintenance workorder system. Plumbing fixtures are still serviceable throughout the facility although the surface finish on most of the faucets are worn.

ELECTRICITY

The building is equipped with two 750 KVA transformers. Each has a primary voltage of 13,200. One has a secondary voltage of 240 volts and the other has secondary voltage of 208/120. The Physical Facilities Department's Utilities Division's records indicate that the transformers have been utilized at approximately 58% of capacity last summer. There is an abundant supply of electrical power available. There is adequate electrical capacity and ample spare circuit space in all panels. We did observe that most of the hallway breaker panels were dirty.

The building lighting system is predominantly 4-tube fluorescent fixtures which are clean and in good condition throughout most areas except the first floor lobby

area. There is an adequate supply and distribution of convenience outlets throughout the building.

SAFETY STANDARDS

The building is equipped with portable fire extinguishers and standpipes in all three stairways. Smoke detectors are located in the HVAC ductwork and under the raised floor in the computer room. The building has lighted exit signs and an emergency lighting system.

The entrance on the south side of the building is sloped to accommodate wheelchairs and has a door that is equipped with an electric opener for the handicapped. All floors are handicapped accessible from the elevator.

ASBESTOS

The Ohio Board of Regents Facilities Asbestos Inspection and Risk Assessment Program's report: Inventory of Friable Asbestos-Containing Materials in Buildings of the Ohio State University (Main and Branch Campuses) and Recommendations for Corrective Action by PEI Associates, September 1986, identifies asbestos containing materials in the pipe and condensate tank insulation located in maintenance rooms in the basement and penthouse.

BUILDING PERIMETER

There is a driveway for the overhead door located on the west side of the building. The east side of the building has a paver plaza that has just been installed and is in very good condition. The sidewalk accessing the west door to the building has several heaved panels that require attention. The asphalt sidewalks on the south side of the building are cracked and should be repaired. The entrances to the facility are well lighted and secure. The plant bed along the south side of the building requires more bedding material.

Maintenance Projects (LESS THAN $5000)

1. Repair sidewalk leading to west entrance, fill holes in driveway.
   Workorder # 01-5063-008229-51

2. Seal asphalt walk at the south side of the building.
   Workorder # 01-5063-008228-51

3. Clean hallway electrical breaker panels throughout the building.
   Workorder # 01-5064-111267-65

4. Install light over the blackboard in rm 291.
   Workorder # 01-5064-111263-71

5. Clean/scrub tile floors in restrooms.
   Workorder # 01-5064-008225-40

6. Paint overhead door on the west side of the building.
   Workorder # 01-5064-111247-65

7. Repair restroom door at 315T.
   Workorder # 01-5064-111290-71

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BUILDING EVALUATION SUMMARY

I. BUILDING INFORMATION

FAC # 280 FACILITY NAME: BAKER SYSTEMS ENGINEERING
DATE: 5/2/94 INSPECTOR: JAMES P. HERTENSTEIN
YEAR CONSTRUCTED: 1968
GROSS SQ FT: 114,888 NET SQ FT: 87,094
REPLACEMENT COST $ 17,266,000 *

II. COMPONENT RATING

COMPONENT	BUILDING COMPONENT PERCENTAGE OF TOTAL COST **	BUILDING COMPONENT REPLACEMENT COST	CONDITION VALUE MULTIPLIER FOR BLDG. COMPONENT	BUILDING COMPONENT CURRENT VALUE
Foundation	5.4	932,364	.91	848,451
Columns and Beams	20.8	3,591,328	.92	3,304,022
Exterior Walls	10.4	1,795,664	.88	1,580,184
Windows & Doors	2.4	414,384	.82	339,795
Roofing	1.3	224,458	.61	136,919
Partitions & Drs.	7.1	1,225,886	.86	1,054,262
Wall Finishes	2.7	466,182	.79	368,284
Floor Finishes	5.2	897,832	.82	736,222
Ceilings & Finish	7.4	1,277,684	.72	919,932
Conveying	1.7	293,522	.65	190,789
Plumbing	2.3	397,118	.79	313,723
Heating	9.1	1,571,206	.83	1,304,101
Cooling & Vent.	9.7	1,674,802	.72	1,205,857
Elec. Ser. & Dist	1.8	310,788	.98	304,572
Lighting & Power	12.1	2,089,186	.78	1,629,565
Safety Standards	.6	103,596	.70	72,517
TOTALS	100.00	17,266,000		14,309,195

III. BUILDING RATING SUMMARY

Overall Building Rating = 83%

* Replacement Cost assigned September 1991 by The Office of Campus Planning and Space Utilization without the furnishings and fixed equipment allocation.

** Percent allocation of each building component is calculated from The Means Standard Construction Cost data for College Classroom Buildings.

FOUNDATIONS

FAC #280 DATE 5/2/94 INSPECTOR: JPH

A. SYSTEM DESCRIPTION

a. Footings:	N/A	Sat	Att
Individual Footings & Piers	[X]	[ ]	[ ]
Continuous Footings LOCATED UNDER WALLS AT THE PERIMETER	[ ]	[X]	[ ]
Grade Beams	[X]	[ ]	[ ]
Piles	[X]	[ ]	[ ]
Caissons UNDER ALL BUILDING COLUMNS	[ ]	[X]	[ ]
b. Foundation Wall Materials:			
Steel	[X]	[ ]	[ ]
Concrete Cast-in-place	[ ]	[X]	[ ]
Concrete Block	[X]	[ ]	[ ]
Other	[X]	[ ]	[ ]
c. Waterproofing and Underdrain:			
Coating	[X]	[ ]	[ ]
Membrane EXTERIOR OF FOUNDATION WALLS AND UNDER THE SLAB	[ ]	[X]	[ ]
Board 'CELOTEX' ON THE EXTERIOR OF THE FOUNDATION WALLS	[ ]	[X]	[ ]
Drain Tile 4" TILE AT THE PERIMETER AND UNDER THE SLAB	[ ]	[X]	[ ]
d. Slab on Grade (floor):			
Plain	[X]	[ ]	[ ]
Reinforced 6" SLAB THICKENED TO 10" UNDER PARTITION WALLS	[ ]	[X]	[ ]
e. Special Substructures:			
	[X]	[ ]	[ ]

B. COMMENTS:

NO PROBLEMS OBSERVED.

C. COMPONENT RATING: ($932,400) X (91 %) = $ 848,500

Possible Value	Condition Value	Multiplier	Component Value

COLUMNS AND BEAMS

FAC #280 DATE 5/2/94 INSPECTOR: JPH

A. SYSTEM DESCRIPTION

a. Columns and Beams:	N/A	Sat	Att
Concrete-in-place THROUGHOUT	[ ]	[X]	[ ]
Precast Concrete	[X]	[ ]	[ ]
Steel BAR JOISTS AT CEILING OF PENTHOUSE	[ ]	[X]	[ ]
Steel Fireproofing	[X]	[ ]	[ ]
Wood	[X]	[ ]	[ ]
Other	[X]	[ ]	[ ]
b. Floors:			
Concrete Slab 5-3/4" THICK	[ ]	[X]	[ ]
Precast Slab	[X]	[ ]	[ ]
Metal Deck	[X]	[ ]	[ ]
Metal Deck w/concrete fill	[X]	[ ]	[ ]
Wood	[X]	[ ]	[ ]
Other	[X]	[ ]	[ ]
c. Roof System:			
Flat	[ ]	[X]	[ ]
Pitched	[X]	[ ]	[ ]
Concrete ABOVE FIFTH FLOOR	[ ]	[X]	[ ]
Steel DECK ABOVE PENTHOUSE	[ ]	[X]	[ ]
Wood	[X]	[ ]	[ ]
Other	[X]	[ ]	[ ]

B. COMMENTS:

NO DEFLECTION OR OTHER STRUCTURAL PROBLEMS OBSERVED.

C. COMPONENT RATING: ($3,591,000) X (92 %) = $3,304,000

Possible Value	Condition Value	Multiplier	Component Value

EXTERIOR WALLS

FAC #280 DATE 5/2/94 INSPECTOR: JPH

A. SYSTEM DESCRIPTION

a. Walls:	N/A	Sat	Att
Concrete EXPOSED FOUNDATION ON WEST SIDE	[ ]	[X]	[ ]
Masonry BRICK AND LIMESTONE	[ ]	[X]	[ ]
Metal Siding	[X]	[ ]	[ ]
Wood Siding	[X]	[ ]	[ ]
Other PRECAST CONCRETE AND POLISHED GRANITE PANELS	[ ]	[X]	[ ]
b. Finishes:			
Stucco	[X]	[ ]	[ ]
Paint	[X]	[ ]	[ ]
Other	[X]	[ ]	[ ]

B. COMMENTS:

THE MASONRY WAS CLEANED AND SEALED IN 1991. THE CAULKING WAS ALSO REPLACED THE EXTERIOR IS IN GOOD CONDITION.

C. COMPONENT RATING: ($1,796,000) X (88 %) = $1,580,000

Possible Value	Condition Value	Multiplier	Component Value

EXTERIOR WINDOWS & DOORS

FAC #280 DATE 5/2/94 INSPECTOR: JPH

A. SYSTEM DESCRIPTION

a. Windows type & number:	N/A	Sat	Att
Wood	[X]	[ ]	[ ]
Steel	[X]	[ ]	[ ]
Alum 147 FIXED UNITS, 12 SINGLE-HUNG UNITS	[ ]	[X]	[ ]
Other 236 TINTED-GLASS SPANDREL PANELS	[ ]	[X]	[ ]
b. Window glazing:			
Single pane	[ ]	[X]	[ ]
Double pane	[X]	[ ]	[ ]
Other	[X]	[ ]	[ ]
c. Doors type & number:			
Wood	[X]	[ ]	[ ]
Steel 3 SINGLE, OVERHEAD DOOR AT BASEMENT NEEDS PAINT	[ ]	[ ]	[X]
Alum 2 DOUBLE AND ONE SINGLE	[ ]	[X]	[ ]
Other	[X]	[ ]	[ ]
d. Shading Devices:			
Types VENETIAN BLINDS	[ ]	[X]	[ ]

B. COMMENTS:

NO PROBLEMS OBSERVED WITH THE WINDOWS. EXTERIOR GLAZING IS LIMITED.

C. COMPONENT RATING: ($414,400) X (82 %) = $339,800

Possible Value	Condition Value	Multiplier	Component Value

ROOFING

FAC #280 DATE 5/2/94 INSPECTOR: JPH

A. SYSTEM DESCRIPTION

a. Roof Covering:	N/A	Sat	Att
Built-up	[X]	[ ]	[ ]
Built-up w/gravel 17,300 SF INSTALLED IN 1968	[ ]	[ ]	[X]
Asphalt Shingle	[X]	[ ]	[ ]
Copper	[X]	[ ]	[ ]
Glass (Skylight)	[X]	[ ]	[ ]
Slate	[X]	[ ]	[ ]
Spanish Tile	[X]	[ ]	[ ]
Metal	[X]	[ ]	[ ]
Other	[X]	[ ]	[ ]
c. Flashing:			
Base & Counter BITUMEN-COATED FELT AND STAINLESS STEEL	[ ]	[X]	[ ]
Cap STAINLESS STEEL AT PARAPETS	[ ]	[X]	[ ]
Through Wall	[X]	[ ]	[ ]
Valley & Ridge	[X]	[ ]	[ ]
d. Gravel Stop & Edge Strips:			
Type STAINLESS STEEL	[ ]	[X]	[ ]
e. Drainage:			
Gutters w/ Exterior Downspouts	[X]	[ ]	[ ]
Scuppers w/ Exterior Downspouts NO DOWNSPOUTS	[ ]	[X]	[ ]
Drains w/ Interior Storm Drains	[ ]	[X]	[ ]
f. Parapets:			
Concrete	[X]	[ ]	[ ]
Brick	[X]	[ ]	[ ]
Block	[X]	[ ]	[ ]
Precast	[X]	[ ]	[ ]
Other LIMESTONE AND BLOCK	[ ]	[X]	[ ]
g. Insulation:			
Type TAPERED LIGHT-WEIGHT CONCRETE AND 1-1/2" RIGID	[ ]	[X]	[ ]

B. COMMENTS

THERE ARE A LARGE NUMBER OF BLISTERS OVER THE PENTHOUSE. THERE ARE ALSO A SMALLER NUMBER OF BLISTERS OVER THE REST OF THE ROOF. THE AMOUNT OF EQUIPMENT ON THE ROOF IMPLIES HEAVY FOOT TRAFFIC. WHILE THERE HAVE NOT BEEN MANY REPORTED ROOF LEAKS, THE AGE, CONDITION AND FOOT TRAFFIC SUGGEST THAT A ROOF REPLACEMENT PROJECT SHOULD BE PLANNED TO BE ACCOMPLISHED IN THE NEXT FIVE TO TEN YEARS.

C. COMPONENT RATING: ($224,500) X (61 %) = $136,900

Possible Value	Condition Value	Multiplier	Component Value

PARTITIONS & DOORS

FAC #280 DATE 5/2/94 INSPECTOR: JPH

A. SYSTEM DESCRIPTION

	N/A	Sat	Att
a. Partition Framing:			
Concrete Block PREDOMINANT	[ ]	[X]	[ ]
Glazed Block LIMITED USE - RESTROOMS	[ ]	[X]	[ ]
Wood Stud	[X]	[ ]	[ ]
Metal Stud SOME OFFICE AND CLASSROOM WALLS	[ ]	[X]	[ ]
Structural Tile	[X]	[ ]	[ ]
Rated	[X]	[ ]	[ ]
Other CAST-IN-PLACE CONCRETE, PRE-FORMED METAL, BRICK	[ ]	[X]	[ ]
b. Special partitions and Walls:			
Toilet METAL	[ ]	[X]	[ ]
Screen Walls	[X]	[ ]	[ ]
Gate	[X]	[ ]	[ ]
Other FOLDING ACCORDION-TYPE PARTITIONS IN SOME ROOMS	[ ]	[X]	[ ]
c. Wall Material:			
Plaster	[X]	[ ]	[ ]
Plaster Board USED WITH METAL STUDS	[ ]	[X]	[ ]
Glass GLAZING IN SOME WALLS AT DEPARTMENTAL SPACE	[ ]	[X]	[ ]
Plywood	[X]	[ ]	[ ]
Paneling	[X]	[ ]	[ ]
Trim & Wainscot	[X]	[ ]	[ ]
Tile/Glazed RESTROOMS	[ ]	[X]	[ ]
Other METAL	[ ]	[X]	[ ]
d. Interior Doors & Frames:			
Met Door/Met Frame MAINTENANCE AND FIRE DOORS AT STAIRS	[ ]	[ ]	[X]
Wood Door/Wood Frame	[X]	[ ]	[ ]
Wood Door/Metal Frame PREDOMINANT	[ ]	[ ]	[X]
Glazing AT STAIRWAY DOORS	[ ]	[X]	[ ]
Rollup	[X]	[ ]	[ ]
Sliding SEVERAL METAL DOORS AT THE BASEMENT LABORATORIES	[ ]	[X]	[ ]
Other	[X]	[ ]	[ ]
e. Hardware:			
Door Closers	[ ]	[X]	[ ]
Lock Sets	[ ]	[X]	[ ]
Kick/Push Plates	[ ]	[X]	[ ]
Thresholds	[ ]	[X]	[ ]
Panic Devices	[ ]	[X]	[ ]
Security & Detection	[ ]	[X]	[ ]
Automatic Openers HANDICAPPED ENTRANCE DOORS	[ ]	[X]	[ ]
Other	[X]	[ ]	[ ]

B. COMMENTS:

THE METAL FIRE DOORS AT THE STAIRWAYS SHOULD BE PAINTED. THE NORTH DOORS AT THE MAIN LOBBY HAVE BEEN REPAIRED SEVERAL TIMES. THE DOOR TO 315T HAS A SPRUNG HINGE AND WILL NOT CLOSE COMPLETELY. NO STRUCTURAL DEFECTS WERE OBSERVED WITH THE PARTITIONS.

C. COMPONENT RATING: ($1,226,000) X (86 %) = $1,054,000

Possible Value	Condition Value	Multiplier	Component Value

WALL FINISHES

FAC #280 DATE 5/2/94 INSPECTOR: JPH

A. SYSTEM DESCRIPTION	N/A	Sat	Att
a. Paint PREDOMINANT FINISH	[ ]	[ ]	[X]
b. Wall Coating	[X]	[ ]	[ ]
c. Wall Coverings	[X]	[ ]	[ ]
d. Paneling			
Prefinished	[X]	[ ]	[ ]
Plank	[X]	[ ]	[ ]
e. Cork	[X]	[ ]	[ ]
f. Wallpaper	[X]	[ ]	[ ]
g. Ceramic Tile RESTROOMS	[ ]	[ ]	[X]
h. Trim & Wainscot	[X]	[ ]	[ ]
i. Decoration	[X]	[ ]	[ ]
j. Glass LIMITED USE	[ ]	[X]	[ ]
k. Other	[ ]	[X]	[ ]

B. COMMENTS

THE PAINT IN THE STAIRWAYS PRIMARILY UP TO THE FOURTH FLOOR IS IN POOR CONDITION. THE BASE COURSE OF CERAMIC TILE IN THE RESTROOMS IS VERY DIRTY.

C. COMPONENT RATING: ($466,200) X (79 %) = $410,200

Possible Value	Condition Value	Multiplier	Component Value

FLOOR FINISHES

FAC #280 DATE 5/2/94 INSPECTOR: JPH

A. SYSTEM DESCRIPTION

	N/A	Sat	Att
a. Carpet:			
Rolled DEPARTMENTAL SPACE	[ ]	[X]	[ ]
Tile	[X]	[ ]	[ ]
b. Composition:			
Epoxy	[X]	[ ]	[ ]
Synthetic	[X]	[ ]	[ ]
Other	[X]	[ ]	[ ]
c. Concrete Topping:			
Clear Sealant MAINTENANCE ROOMS	[ ]	[ ]	[X]
Abrasive	[X]	[ ]	[ ]
Epoxy	[X]	[ ]	[ ]
Aggregate	[X]	[ ]	[ ]
d. Resilient:			
Vinyl Tile PREDOMINANT - GOOD CONDITION	[ ]	[X]	[ ]
Linoleum	[X]	[ ]	[ ]
Vinyl	[X]	[ ]	[ ]
Rubber	[X]	[ ]	[ ]
Cork	[X]	[ ]	[ ]
e. Ceramic Tile RESTROOMS - NEEDS A THOROUGH SCRUBBING	[ ]	[ ]	[X]
f. Masonry	[X]	[ ]	[ ]
g. Terrazzo	[X]	[ ]	[ ]
h. Wood	[X]	[ ]	[ ]
i. Metal	[X]	[ ]	[ ]

B. COMMENTS

VINYL TILE IS IN GOOD CONDITION. THE DEPARTMENT OF PHYSICAL FACILITIES HAS PROPOSED A PROJECT TO INSTALL A WATER PROOF MEMBRANE UNDER THE COOLING TOWERS LOCATED IN THE PENTHOUSE IN PLACE OF THE CONCRETE SEALER. MAINTENANCE PERSONNEL COMMENTED THAT THE COOLING TOWERS USUALLY LEAK AT LEAST ONCE A YEAR AND THAT A WATERTIGHT FLOOR IS A NECESSITY IN THIS AREA.

C. COMPONENT RATING: ($897,800) X (82 %) = $736,200

Possible Value	Condition Value	Multiplier	Component Value

CEILINGS AND FINISHES

FAC #280 DATE 5/2/94 INSPECTOR: JPH

A. SYSTEM DESCRIPTION

a. System Type:	N/A	Sat	Att
Exposed MAINTENANCE ROOMS	[ ]	[X]	[ ]
Applied to Structure DRYWALL & 12" X 12" TILE	[ ]	[X]	[ ]
Suspended PREDOMINANT	[ ]	[ ]	[X]
b. Materials:			
Drywall RESTROOMS	[ ]	[X]	[ ]
Plaster	[X]	[ ]	[ ]
Mineral Fiber Board	[ ]	[ ]	[X]
Metal Pan	[X]	[ ]	[ ]
Luminous Panels	[X]	[ ]	[ ]
Other	[X]	[ ]	[ ]
c. Finishes:			
Paint	[X]	[ ]	[ ]
Fabric	[X]	[ ]	[ ]
Prefinished	[ ]	[ ]	[X]
Other	[X]	[ ]	[ ]
d. Openings & Inserts:			
Air Distribution DIRTY	[ ]	[ ]	[X]
Lighting Fixtures HALLWAY FIXTURES ARE DIRTY	[ ]	[ ]	[X]
Access Panels	[ ]	[X]	[ ]
Skylights	[X]	[ ]	[ ]
Fire Protection	[X]	[ ]	[ ]
Other	[X]	[ ]	[ ]

B. COMMENTS:

THE DIFFUSERS IN THE LOBBY AREA OF THE FIRST FLOOR ARE RUSTY AND DIRTY, THEY SHOULD BE CLEANED AND PAINTED. THE LIGHT FIXTURES IN THE FIRST FLOOR HALLWAYS ARE SOILED AND THERE IS A GREAT DEAL OF DIRT AT THE AIR DIFFUSERS THROUGHOUT THE FIRST FLOOR. THE GRIDS FOR THE SUSPENDED CEILINGS ARE BEGINNING TO YELLOW AND THIS IS PARTICULARLY EVIDENT AT THE JUNCTURE WITH THE NEW ADDITION TO DREESE LAB AT THE NORTH END OF THE FIRST AND SECOND FLOOR HALLWAYS.

C. COMPONENT RATING: ($1,278,000) X (72 %) = $919,900

Possible Value	Condition Value	Multiplier	Component Value

CONVEYING

FAC #280 DATE 5/2/94 INSPECTOR: JPH

A. SYSTEM DESCRIPTION

a. Elevators:	N/A	Sat	Att
Number 3	[ ]	[ ]	[X]
Type 2 PASSENGER @ SOUTH & 1 FREIGHT @ NORTH, ALL OTIS	[ ]	[X]	[ ]
Speed 200 FPM EACH	[ ]	[X]	[ ]
Capacity (lbs) PASSENGER - 2500 EACH, FREIGHT - 4500	[ ]	[X]	[ ]
Dimensions PASSENGER - 51" X 80", FREIGHT - 95" X 65"	[ ]	[X]	[ ]
Door Operation:			
Center PASSENGER ELEVATORS	[ ]	[X]	[ ]
To Side FREIGHT ELEVATOR	[ ]	[X]	[ ]
Handicapped-accessible controls	[ ]	[ ]	[X]
b. Lifts and Hoists:			
Number	[X]	[ ]	[ ]
Type	[X]	[ ]	[ ]
c. Moving Stairs and Walks:			
Number	[X]	[ ]	[ ]
Type	[X]	[ ]	[ ]
d. Conveyors:			
Number	[X]	[ ]	[ ]
Type	[X]	[ ]	[ ]
e. Pneumatic Tubes:			
Number	[X]	[ ]	[ ]
Type	[X]	[ ]	[ ]

B. COMMENTS:

THE DEPARTMENT OF PHYSICAL FACILITIES HAS PROPOSED A PROJECT TO UPGRADE AND MODERNIZE THE THREE EXISTING ELEVATORS IN THE BUILDING. THEY HAVE NOT BEEN RENOVATED SINCE INSTALLATION AND THE PASSENGER ELEVATORS ARE SUBJECT TO A HIGH DEGREE OF UTILIZATION. THE INTERIORS ARE IN POOR CONDITION AND THE CONTROLS SHOULD BE MODERNIZED TO IMPROVE SERVICE AND PROVIDE FIRE FIGHTERS SERVICE. NEW DOOR OPERATION DEVICES ARE ALSO REQUIRED IN ADDITION TO FINISHES RENOVATION.

C. COMPONENT RATING: ($293,500) X (65 %) = $190,800

Possible Value	Condition Value	Multiplier	Component Value

MECHANICAL/PLUMBING

FAC #280 DATE 5/2/94 INSPECTOR: JPH

A. SYSTEM DESCRIPTION

a. Services Available:	N/A	Sat	Att
Cold Water 6" SUPPLY IN ROOM 064M	[ ]	[X]	[ ]
Hot Water 3" SUPPLY, 1-1/4" RETURN - ROOM 064M	[ ]	[X]	[ ]
Acid Waste SMALL SYSTEM INSTALLED FOR ROOM 140 AREA	[ ]	[X]	[ ]
Oxygen	[X]	[ ]	[ ]
Natural Gas 2" - 064M	[ ]	[X]	[ ]
Vacuum CENTRAL CLEANING SYSTEM NO LONGER USED	[X]	[ ]	[ ]
Distilled Water	[X]	[ ]	[ ]
Compressed Air 1-1/2" SUPPLY FROM POWER PLANT IN 064M	[ ]	[X]	[ ]
Other	[X]	[ ]	[ ]
b. Piping & Fittings:			
Cast Iron WASTER LINES AND VENTS	[ ]	[X]	[ ]
Copper Tubing SOME DOMESTIC WATER AND COMPRESSED AIR	[ ]	[X]	[ ]
Plastic	[X]	[ ]	[ ]
Steel WATER AND STEAM LINES	[ ]	[X]	[ ]
Glass	[X]	[ ]	[ ]
Other	[X]	[ ]	[ ]
c. Water Heaters:			
Electric	[X]	[ ]	[ ]
Gas	[X]	[ ]	[ ]
Oil	[X]	[ ]	[ ]
Steam Converter	[X]	[ ]	[ ]
Other SUPPLIED FROM THE UNIVERSITY POWER PLANT	[ ]	[X]	[ ]
d. Drainage:			
Storm Drains	[ ]	[X]	[ ]
Sanitary Drainage	[ ]	[X]	[ ]
Combined Storm/San.	[X]	[ ]	[ ]
Floor Drains RESTROOMS AND LABS	[ ]	[X]	[ ]
e. Fixtures:			
Water Closets 26	[ ]	[X]	[ ]
Urinals 19	[ ]	[X]	[ ]
Lavatories 22 + 2 WASH FOUNTAINS	[ ]	[X]	[ ]
Showers	[X]	[ ]	[ ]
Kitchen Sinks 3	[ ]	[X]	[ ]
Service Sinks 6	[ ]	[X]	[ ]
Drinking Fountains	[X]	[ ]	[ ]
Electric Water Coolers	[ ]	[X]	[ ]
f. Sprinkler Systems:			
Wet	[X]	[ ]	[ ]
Dry	[X]	[ ]	[ ]
g. Standpipe Systems:			
Wet 3 - 6" PIPES - ONE AT EACH STAIRWAY	[ ]	[X]	[ ]
Dry	[X]	[ ]	[ ]
Valves LOCATED AT EACH STAIRWAY LANDING	[ ]	[X]	[ ]
Hose Cabinets ADJACENT TO STAIRWAY DOORS - EACH FLOOR	[ ]	[X]	[ ]

B. COMMENTS:

MAINTENANCE PERSONNEL DID NOT IDENTIFY ANY EXISTING PROBLEMS.

C. COMPONENT RATING: ($397,100) X (79 %) = $313,700

Possible Value	Condition Value	Multiplier	Component Value

MECHANICAL/HEATING

FAC #280 DATE 5/2/94 INSPECTOR: JPH

A. SYSTEM DESCRIPTION

a. Heat Source:	N/A	Sat	Att
Central Plant Steam 4" SUPPLY, 3" COND. RETURN - RM 064M	[ ]	[X]	[ ]
Central Plant Hot Water	[X]	[ ]	[ ]
Boilers: Type	[X]	[ ]	[ ]
Size	[X]	[ ]	[ ]
Furnace: Type	[X]	[ ]	[ ]
Size	[X]	[ ]	[ ]
Heat Pump: Type	[X]	[ ]	[ ]
Size	[X]	[ ]	[ ]
b. System Type:			
Steam	[X]	[ ]	[ ]
Hot Water LIMITED FORCED HOT WATER SYSTEM	[ ]	[X]	[ ]
Air PREDOMINANT SYSTEM - AIR HANDLER COILS	[ ]	[X]	[ ]
Multizone	[X]	[ ]	[ ]
Dual Duct PRIMARY SYSTEM IN THE BUILDING	[ ]	[X]	[ ]
Terminal Reheat LIMITED USE	[ ]	[X]	[ ]
Variable Volume SOME INTERIOR SPACES WERE MODIFIED	[ ]	[X]	[ ]
Other	[X]	[ ]	[ ]
c. Space Equipment:			
Radiators FIN-TUBE RADIATION BELOW WINDOWS AT 1ST FLOOR	[ ]	[X]	[ ]
Convectors	[X]	[ ]	[ ]
2-Pipe Fan Coil	[X]	[ ]	[ ]
Unit Heaters MECHANICAL ROOMS AND ENTRANCES	[ ]	[X]	[ ]
Other	[X]	[ ]	[ ]
d. Control Type:			
Pneu	[ ]	[X]	[ ]
Electric	[X]	[ ]	[ ]
DDC	[ ]	[X]	[ ]
Manual Valves	[X]	[ ]	[ ]

B. COMMENTS:

HEATING HOT WATER IS PROVIDED FOR THE RADIATION SYSTEM FROM TWO STEAM CONVERTERS LOCATED IN THE BASEMENT MECHANICAL ROOM. HEATING HOT WATER IS PROVIDED FOR THE AIR HANDLERS FROM TWO STEAM CONVERTERS LOCATED IN PENTHOUSE. THE SYSTEM IS FUNCTIONING ADEQUATELY AT THIS TIME.

C. COMPONENT RATING: ($1,571,000) X (83 %) = $1,304,000

Possible Value	Condition Value	Multiplier	Component Value

COOLING & VENTILATING

FAC #280 DATE 5/2/94 INSPECTOR: JPH

A. SYSTEM DESCRIPTION

	N/A	Sat	Att
a. System:			
Type DDHV, MODIFIED VAV AND SEVERAL SINGLE-ZONE DX SYS.	[ ]	[ ]	[X]
Capacity APPROXIMATELY 250 TONS + 173 TONS ABSORPTION	[ ]	[ ]	[X]
b. Chillers:			
Centrifugal TRANE, 175 TONS CAPACITY, INSTALLED 1980	[ ]	[X]	[ ]
Reciprocating	[X]	[ ]	[ ]
Absorption TRANE, 173 TONS CAPACITY, INSTALLED 1968	[ ]	[ ]	[X]
c. Cooling Towers:			
Type 2 MARLEYS	[ ]	[X]	[ ]
Capacity 469 TONS TOTAL CAPACITY	[ ]	[X]	[ ]
d. Condensers: 5 AIR COOLED CONDENSERS FOR DX SYSTEMS	[ ]	[X]	[ ]
e. Space Equipment:			
Direct Expansion -			
Window units	[X]	[ ]	[ ]
Thru-the-wall	[X]	[ ]	[ ]
Single zone USED EXTENSIVELY TO AUGMENT COOLING	[ ]	[X]	[ ]
Single zone con. vol.	[X]	[ ]	[ ]
Other	[X]	[ ]	[ ]
Air/Water -			
2-pipe fan coil	[X]	[ ]	[ ]
Unit ventilators	[X]	[ ]	[ ]
Terminal reheat REMOVED TO CONSERVE ENERGY	[X]	[ ]	[ ]
Variable volume SOME INTERIOR SPACES WERE MODIFIED	[ ]	[X]	[ ]
Dual Duct PRIMARY SYSTEM	[ ]	[X]	[ ]
f. Special Systems:			
Type	[X]	[ ]	[ ]
Capacity	[X]	[ ]	[ ]
g. Control Systems:			
Pneu ACTUATORS	[ ]	[X]	[ ]
Electric	[X]	[ ]	[ ]
Electronic CSI-7700 DIRECT DIGITAL CONTROL SYSTEM	[ ]	[X]	[ ]
h. Fans:			
Exhaust 6	[ ]	[X]	[ ]
Recirculating 7 OF 9 ORIGINAL AIR HANDLERS STILL IN USE	[ ]	[ ]	[X]

B. COMMENTS:

AIR VOLUME WAS REDUCED TO CONSERVE ENERGY IN THE 1970'S. THE ABSORPTION CHILLER IS NO LONGER FUNCTIONAL WHICH HAS REDUCED THE AVAILABLE CHILLED WATER SUPPLY IN THE BUILDING. THE INCREASING HEAT LOAD RESULTING FROM ADDITIONAL COMPUTERS HAS OVERCOME THE CURRENT SYSTEMS ABILITY TO ADEQUATELY COOL THE BUILDING. AIR FLOW SHOULD BE INCREASED IN THE BUILDING AFTER ADDITIONAL CHILLED WATER IS MADE AVAILABLE EITHER THROUGH THE INSTALLATION OF REPLACEMENT CHILLER OR FROM AN EXTERNAL SOURCE.

C. COMPONENT RATING: ($1,675,000) X (72 %) = $ 1,206,000

Possible Value	Condition Value	Multiplier	Component Value

ELECTRICAL/SERVICE & DISTRIBUTION

FAC #280 DATE 5/2/94 INSPECTOR: JPH

A. SYSTEM DESCRIPTION

(a)Service:

Substation MCCRACKEN - CIRCUIT (PGN5/PGS5)
Primary Voltage 13,2000 VOLTS
Transformer:

Manufacture	Type	KVA	Secondary Voltages
GENERAL ELECTRIC	OIL	750	240 DELTA
GENERAL ELECTRIC	OIL	750	208/120

(b)Distribution System:

Panelboard (type) CIRCUIT BREAKERS
Voltage 120/208
Amperage 4400 AMPS
Conduit ALUMINUM AND GALVANIZED STEEL
Conductor COPPER
Wire (type) VARIES
Armored Cable LIMITED USE
Other N/A

(c)Emergency System:

General or (type & capacity) N/A

B. COMMENTS:

THE TWO BUILDING TRANSFORMERS WERE REPLACED IN 1990 IN THE PCB REPLACEMENT PROJECT. PHYSICAL FACILITIES RECORDS INDICATE THAT THE TRANSFORMERS ARE UTILIZED AT APPROXIMATELY 58% OF CAPACITY.

C. COMPONENT RATING: ($310,800) X (98 %) = $304,600

Possible Value	Condition Value	Multiplier	Component Value

ELECTRICAL/LIGHTING & POWER

FAC #280 DATE 5/2/94 INSPECTOR: JPH

A. SYSTEM DESCRIPTION

a. Lighting (lamp type):	N/A	Sat	Att
Fluor FIXTURES ARE DIRTY IN LOWER FLOOR HALLS	[ ]	[ ]	[X]
Incand VARIABLE INTENSITY SPOT LIGHTS, MECHANICAL ROOMS	[ ]	[X]	[ ]
HID	[ ]	[X]	[ ]
Other	[X]	[ ]	[ ]
b. Receptacles & Switches:			
Type & Capacity GROUNDED 120 VOLT DUPLEX	[ ]	[X]	[ ]
c. Special:			
Baseboard Heat	[X]	[ ]	[ ]
Lightning Protection	[ ]	[X]	[ ]
Communication & Alarm	[ ]	[X]	[ ]
Data Systems	[ ]	[X]	[ ]

B. COMMENTS:

THE ELECTRICAL DISTRIBUTION BREAKER BOXES THROUGHOUT THIS BUILDING ARE DIRTY. NO PROBLEMS WERE IDENTIFIED BY MAINTENANCE PERSONNEL OR OCCUPANTS.

C. COMPONENT RATING: **($2,089,000)** X **(78 %)** = **$1,630,000**

Possible Value		Condition Value	Multiplier	Component Value

SAFETY STANDARDS

FAC #280 DATE 5/2/94 INSPECTOR: JPH

	N/A	Sat	Att
(a)Exits:			
Stair Construction:			
concrete	[X]	[ ]	[ ]
steel WITH CONCRETE PANS	[ ]	[X]	[ ]
wood	[X]	[ ]	[ ]
Number of exits 3	[ ]	[X]	[ ]
(b)Fire Rating:			
Construction Type: I X II III IV V VI			
Building Height: 68 ft., 5 stories			
(c)Extinguishing Systems:			
Portable WATER, CO-2 AND ABC THROUGHOUT	[ ]	[X]	[ ]
Standpipe 3 - 6" LOCATED AT STAIRWAYS	[ ]	[X]	[ ]
Hose Cabinets LOCATED ADJACENT TO THE STAIRWAYS	[ ]	[X]	[ ]
Sprinklers	[X]	[ ]	[ ]
Suppression HALON SYSTEM IN SOME AREAS	[ ]	[X]	[ ]
Other	[X]	[ ]	[ ]
(d)Detection & Alarm Systems:			
Manual Alarm	[ ]	[X]	[ ]
Annunciator LOCATED IN 060M	[ ]	[X]	[ ]
Smoke Detectors IN DUCTWORK AND RAISED FLOOR	[ ]	[X]	[ ]
(e)Lighting Systems:			
Exit Signs	[ ]	[X]	[ ]
Exit Lighting	[ ]	[X]	[ ]
Emergency Lighting	[ ]	[X]	[ ]
Emergency Generator	[X]	[ ]	[ ]

B. COMMENTS:

NO PROBLEMS OBSERVED.

C. COMPONENT RATING: **($103,600) X (70 %) = $72,500**

Possible Value	Condition Value	Multiplier	Component Value

BUILDING PERIMETER EVALUATION

FAC #280 DATE 5/2/94 INSPECTOR: JPH

A. SYSTEM DESCRIPTION

1. Building Access:	N/A	Sat	Att
Driveway NORTH SIDE OF BLDG - ACCESS BASEMENT AREA	[ ]	[X]	[ ]
Loading Dock NEW DOCK UNDER CONSTRUCTION FOR DREESE	[X]	[ ]	[ ]
Sidewalks			
Front PAVER STONE PLAZA	[ ]	[X]	[ ]
Side ASPHALT WALKS TO SOUTH ARE CRACKING	[ ]	[ ]	[X]
Rear CONCRETE WALK NEXT TO DRIVE IS UNEVEN	[ ]	[ ]	[ ]
Steps			
Front NORTH AND SOUTH ENTRANCES	[ ]	[X]	[ ]
Side	[X]	[ ]	[ ]
Rear	[X]	[ ]	[ ]
Handicap Ramp SIDEWALK SLOPES UP TO MAIN ENTRANCE	[X]	[ ]	[ ]
2. Lawn and Landscaping:			
Lawn POOR CONDITION AT CONSTRUCTION SITE	[ ]	[ ]	[X]
Shrubs REQUIRE TRIMMING AT DRIVEWAY	[ ]	[ ]	[X]
Trees	[ ]	[X]	[ ]
Undesirable Insect	[X]	[ ]	[ ]
Bedding Material SOUTH BEDS REQUIRE MULCH	[ ]	[ ]	[X]
Watering System	[X]	[ ]	[ ]
3. General Site Information:			
Signage LOCATED ON NEIL AVENUE	[ ]	[X]	[ ]
Address Identification ON SIGN	[ ]	[X]	[ ]
Security Lights LOCATED ABOVE DOORS AND AT CANOPIES	[ ]	[X]	[ ]
Street Lights NEW LIGHTS ALONG NEIL AVENUE	[ ]	[X]	[ ]
Drainage NO PROBLEMS OBSERVED	[ ]	[X]	[ ]
Storm Drains NO PROBLEMS	[ ]	[X]	[ ]

B. COMMENTS:

BUILDING OCCUPANTS REPORTED THAT THERE HAVE BEEN SEVERAL INSTANCES OF TRIPPING AT THE WEST SIDEWALK LEADING UP TO THE ENTRANCE BECAUSE OF UNEVEN WALK. THE FRONT (EAST) WALKS AND PLAZA WERE RENOVATED AS A PART OF THE DREESE LAB ADDITION. THE WEST LAWN IS BEING REGRADED AND PLANTED.

The Ohio State University
Department of Physical Facilities

BUILDING AUDIT METHODOLOGY

1. BUILDING AUDIT PROGRAM OBJECTIVE

The primary objective of this program is to provide a building-by-building inventory and current list of building maintenance deficiencies. This analysis is limited to the buildings for which the Department of Physical Facilities has budgetary responsibility. These audits will be used to establish corrective maintenance projects and budget cost estimates.

2. BUILDING AUDIT APPROACH

A five-step procedure is used to meet the program objectives:

1. Collect Historical and Inventory Data on each building.
2. Interview Building Occupants.
3. Perform a Building Inspection.
4. Complete Building Evaluation Forms.
5. Issue Written Report.

3. DATA ORGANIZATION

The data collected is stored by hard copy with field notes in a building file established for each building. The report data is being stored in a database program that allows retrieval of specific data as it is needed. The "Building Evaluation" forms contain ratings for the condition of each building component and a description of any deficiencies for those components. The "Building Information" forms provide data on the utilities to the buildings and the type of systems in each building.

4. COST ESTIMATES

Costs are for budgeting purposes only and are based on The Means Standard Construction Cost data, auditor experience, industry sources and OSU project cost data. Costs are reported current to the year of the audit. The building component values assigned in the "Building Evaluation" forms are not cost estimates. These values are calculated from the replacement cost provided by The Office of Campus Planning and Space Utilization for each OSU building.

5. LIMITATIONS

(1) All inspections are visual and do not include physical tests, instrumentation or metering measurements, sampling, or monitoring.

(2) Only random typical offices or laboratories are entered. Typical spaces are deemed to be representative of average conditions throughout each building.

(3) The scope of the analysis does not include complete OSHA, energy, or physical impaired access study. Buildings and components are inspected for condition and general safety requirements rather than specialized code conformance.

(4) It is assumed that the buildings inspected were approved by the State of

Ohio Division of Factory and Building Inspection at the time of construction. The recommendations listed in the reports are not an attempt to bring these existing buildings up to present day code standards. Rather, the intent is to eliminate obvious problems and to upgrade the buildings in a reasonable manner regarding occupant safety.

(5) Cost estimates are in current year dollars and include contractor mark-ups, construction administration costs, and architectural/engineering costs where applicable. Escalation factors must be applied for future work. Combining of projects should serve to decrease costs. These estimates are strictly for purposes of budgeting, and final pricing will be required when the specific scope of work for the project is defined.

(6) The building inspections are defined to include the following:

(a) General repainting, redecorating, wholesale replacement of building and system components, on-going maintenance, replacement and renovation projects.

(b) Exterior building walls and attached items.

(c) Entrance steps at all entries, ramps outside the buildings, and a limited evaluation of plantings around the building exterior.

(7) The building inspections do not include:

(a) Movable furniture.

(b) Fixed equipment inside the buildings that is installed and maintained by a specific academic department or using agency.

(c) Utility lines supplying the buildings.

(8) The program needs of the using Department are assumed to be satisfied. No consideration has been given to anticipate any changes in current occupant space needs.

ABBREVIATIONS

ATT.....ATTENTION
BLDG.....BUILDING
BUR.....BUILT UP ROOF
COND.....CONDENSATE WATER
DD.....DUAL DUCT AIR HANDLING SYSTEM
DDHV.....DUAL DUCT HIGH VELOCITY
DHWR.....DOMESTIC HOT WATER RETURN
DHWS.....DOMESTIC HOT WATER SUPPLY
DX.....DIRECT EXPANSION AIR CONDITIONER
FPM.....FEET PER MINUTE
HID.....HIGH INTENSITY DISCHARGE LIGHT
HPS.....HIGH PRESSURE STEAM (125 PSI)
HVAC.....HEATING, VENTILATING AND
AIR CONDITIONING SYSTEM
KV.....KILOVOLTS
KVA.....KILOVOLTS AMPS
KW.....KILOWATTS
LC.....LIQUID COOLED
LPS.....LOW PRESSURE STEAM (15 PSI)
MPS.....MEDIUM PRESSURE STEAM (50 PSI)
MZ.....MULTIZONE AIR HANDLING SYSTEM
N/A.....NOT APPLICABLE
PSI.....POUNDS PER SQUARE INCH
RM.....ROOM
SAT.....SATISFACTORY
SR.....STEAM RETURN LINE
SS.....STEAM SUPPLY LINE
TR.....TERMINAL REHEAT AIR HANDLING SYSTEM
V.....VOLTS
VAV.....VARIABLE AIR VOLUME SYSTEM

APPENDIX

Reduced Scale Building Floor Plans

C-1 Building Space Assignments