

FACILITY AUDIT REPORT

HOWLETT HALL

#295

DECEMBER 1996

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Department of Physical Facilities
Division of Resource Management**

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**EXECUTIVE SUMMARY AND PROJECT LIST FOR
HOWLETT HALL**

Howlett Hall was completed in 1969 at a cost of \$3,532,270, which included the cost of the original greenhouses. There have been no additions to the building since then. There is a project in design that will completely renovate the third floor. This renovation is being funded with moneys from the new Food Science building project. Howlett Hall was originally constructed to house the Forestry and the Horticulture Departments. Today it is occupied by the Horticulture and Crop Science Department, the Food Science and Technology Department, which includes the Food Processing Pilot Plant and some offices for the Food Industry Center. There are several major concerns with the building. The windows are original and need to be replaced. Also the roof is showing signs of wear and should be scheduled for replacement in the next five to ten years. The masonry has cracks that need to be repaired and the exterior should be cleaned and sealed. The galvanized pipes for the domestic water system need to be replaced. The fans and coils in the air handlers need to be replaced

PROPOSED MAINTENANCE PROJECTS

A. Corrective Maintenance Projects:	Control No.
1. Repair cracks in masonry and clean and seal the exterior.....	\$ 72,000 1595
2. Clean out storm and sanitary drains.....	\$ 25,000
3. Replace fans and coils in air handlers.....	\$ 510,000
4. Seal concrete ceiling in mechanical room.....	\$ 12,000
SUB-TOTAL	\$ 619,000
B. Building Improvement/Addition Projects:	
None	
SUB-TOTAL	\$
C. Building Component Replacements expected within the next 5 to 10 years:	
1. Replace the 138 existing windows.....	\$ 102,000 1428
2. Replace the roof.....	\$ 265,000 1596
3. Replace the domestic water system.....	\$ 204,000 1891
SUB-TOTAL	\$ 571,000
TOTAL COST FOR ALL PROJECTS	\$1,190,000

GENERAL BUILDING INFORMATION

HOWLETT HALL #295

BUILDING ADDRESS: 2001 FYFFE COURT

GROSS SQ. FT.: 61,688

NET ASSIGNABLE SQ. FT.: 42,973

MECHANICAL/CUSTODIAL AREA SQ. FT.: 4,125

YEAR OF CONSTRUCTION: 1969

YEARS OF ADDITIONS: NONE

YEAR OF LAST RENOVATION: NONE

NUMBER OF STORIES/BASEMENT: 3 WITH BASEMENT

AIR CONDITIONING (Percentage): 90

CURRENT USE: HORTICULTURE AND CROP SCIENCE, FOOD SCIENCE

TYPE OF CONSTRUCTION: REINFORCED CONCRETE FRAME WITH BRICK EXTERIOR

ESTIMATED REPLACEMENT COST (ERC): 9,450,000 *

WHEELCHAIR ACCESSIBILITY: WHEELCHAIR ACCESS IS BY WAY OF A RAMP AT THE EAST DOCK AREA WITH ELEVATOR FOR ACCESS TO THE REST OF THE BUILDING.

OVERALL BUILDING CONDITION: SATISFACTORY **

NUMBER OF EXIT STAIRWAYS: TWO

NUMBER OF EXITS: THREE

AREA SHOP RESPONSIBILITY: MIDWEST

* Replacement Cost assigned June 1995 by The Office of University Resource Planning & Institutional Analysis.

** The Office of University Resource Planning & Institutional Analysis C-1 Report Condition Code.

BUILDING SYSTEMS INFORMATION

HOWLETT HALL # 295

HEATING:

Source STEAM FROM POWER PLANT CONVERTED TO HOT WATER AT THE GREENHOUSES.
Type Heating System HOT WATER
Main Steam Feed (Line size, valve location) 2@HPS, 5@ LPS AT THE TUNNEL
Building Htg. Water (line size, valve location) 2 @ 3@ AT THE TUNNEL

VENTILATION SYSTEM:

OUTSIDE AIR TO THE AIR HANDLING UNITS AND ROOM EXHAUST

COOLING:

BLDG % 90 Chillers 2 @ 300 TONS EACH
Window Units 3 Thru-the-wall NONE Direct exp. units 4

HVAC CONTROL SYSTEM:

PNEUMATIC AND ELECTRIC / DDC

ELECTRIC: Source Size(KVA) Primary/Secondary Switchgear & Main Disc. (Rm)

1.	<u>201/306</u>	<u>1500</u>	<u>13,800/480/277</u>	<u>G005M</u>
2.	<u>201/306</u>	<u>1500</u>	<u>13,800/208/120</u>	<u>G005M</u>

PLUMBING SERVICES:

Water (size, valve location) 4@ AT THE TUNNEL
Gas (size, valve location) 3@ AT THE TUNNEL
Domestic Hot Water (size, valve location) 3@ AT THE TUNNEL, 1@ RETURN
Compressed Air (size, location) 2@ IN ROOM G005M

SEWERS:

Storm 1 @ 12@ Sanitary 2 @ 6@ AND 1@ @ 8@
Combined Storm/San. NONE

METERS:

Gas (size, location) 4@ IN ROOM G005M
Water (size, location) NONE
Electric (size, location) 4000 AMPS AND 2000 AMPS IN G005M

ALARM SYSTEMS:

Fire Alarm, Main Panel Room 040M, Remote Panel Location Room
 Fire Pump @ _____ GPM, Pump Location, Room
 Sprinklers, Valve Location Room 007, 100%, Partial, Limited
 Horns/Strobes, Bells in Halls, Rooms
 Other Alarms NONE

ELEVATORS:

Number ONE Type (passenger, freight) PASSENGER 5000#
Manufacturer OTIS Size 86x80

EMERGENCY GENERATOR: Size 300 KVA Location IN 013M OF THE HEAD HOUSE

ASBESTOS SURVEY (1986): FOUND IN FIREPROOFING IN RMS 008 AND 064B. ALSO IN DUCT INSULATION IN RM 015.

HOWLETT HALL NARRATIVE

HISTORY

Howlett Hall was completed in 1969 at a cost of \$3,532,270, which includes the cost of the original greenhouses. It has not had any additions or major renovations. The building was originally constructed to house the Forestry and the Horticulture Departments. Today, the Horticulture and Crop Science Department, the Food Science and Technology Department, and the Food Industry Center occupy the building. When the new Food Science building is built, the interior of the third floor will be completely renovated. A review of the work orders indicated that there are a normal number of emergency and maintenance calls to the building. Two new chillers were installed in 1996 and these units should address the complaints about adequate cooling for the building. There are several maintenance and replacement projects recommended in this report that will protect the structural and exterior components from the elements and enhance the building's performance.

In an interview with the building coordinator, it was learned that the occupants are basically satisfied with the overall condition and performance of the building systems. There are some concerns with the windows and the heating system. These concerns are addressed later in this report.

Occupancy of the building reported by The Office of University Resource Planning & Institutional Analysis in the C-1 Building Space Assignment Report, dated 1996, lists a net assignable area of 42,973 SF. Building use by room category is 54% laboratories, 27% offices, 10% classrooms and 9% mechanical/custodial.

PRIMARY SYSTEMS

The one story food processing plant is built on individual perimeter and interior footings and walls. The four story lab and office structure has poured-in-place reinforced concrete spread footers, concrete walls, concrete columns, concrete joists and concrete floors. There are no indications of problems with the basic structure of the building. The roof deck is reinforced concrete. The exterior consists of brick veneer and precast limestone veneer columns. The bricks have cracks that need to be repaired and the exterior should be cleaned and sealed.

The built-up roof is original and has been repaired in many places. The roof cover over the canopies shows signs of leaking. All roofs should be scheduled for replacement in the next five to ten years.

The windows are single pane, awning style and many have deteriorated frames. There is a project identified, but not funded, to replace them with double pane windows. The aluminum exterior doors are in good condition except the door at the east dock. The closer on this door is not functioning properly and should be repaired.

SECONDARY SYSTEMS

The interior partitions are predominately composed of painted concrete block. There are some metal stud and drywall partitions to accommodate graduate student offices and some administrative offices. There is one store front glass wall at the conference room on the first floor. Overall, wall and floor surfaces are in good condition. The metal partitions in restroom 363 need to be repainted

The ceilings in the laboratories on the third floor and the mechanical rooms are exposed concrete. The paint on the duct work in several laboratories is peeling, however, as the third floor will be completely renovated when the new Food Science building is constructed, no project is suggested to repaint these ceilings at this time. The concrete ceiling in the mechanical room G005M shows signs of deterioration and needs to be repaired. The classrooms and offices have 2 X 4, suspended ceiling tiles. Some tiles in room 257 are missing and tiles throughout the building are stained and need to be replaced.

The primary floor covering in the building is vinyl tile with some carpeting in the administrative areas and in the conference room. The laboratories have concrete floors with a clear sealant coat. The corridors have a ceramic tile base molding. The floor coverings are generally in good condition. There are numerous scratch marks on the vinyl tiles in the corridors leading to the graduate student offices.

SERVICE SYSTEMS

The building has one elevator that is functioning well but lacks landing gongs. This elevator is included in an overall, funded project to upgrade elevators to ADA standards. Most of the major service systems appeared to be functioning properly. Domestic hot water is supplied by a hot water tank located in the penthouse. The water is heated by steam coils. There is a problem with the domestic hot water as it is very rusty in color on Monday mornings and remains somewhat so throughout the week. The original hot water pipes were replaced on the third floor and in the penthouse five years ago. The remaining floors still have the original galvanized pipes. There is an unfunded project identified to replace the remaining galvanized pipes. The fixtures are original and for the most part are still servicable. There was a leaking faucet in the men=s restroom on the third floor.

The cooling and ventilation is supplied by three air handling units and numerous exhaust fans. The cooling part of the system was improved with the installation of two new chillers in the summer of 1996. These chillers were installed in the adjacent headhouse. The chillers pipe chilled water through a loop that supplies not only Howlett Hall, but also the Greenhouse Building #297 and Kottman Hall. The chillers are adequate for the cooling needs of the building. The fans and coils in the three air handling units are past their life expectancy and will need to be replaced to provide appropriate cooling and ventilation for the building occupants. A project is proposed to fund this replacement.

Howlett Hall has a hot water heating system. Hot water is supplied by a steam converter located in the headhouse for the greenhouses and is piped to Howlett Hall by way of the tunnel on the west side of the building. Heat is provided through hot water convectors at the perimeter of the building and a modified dual duct ventilation system. Heat to each room is controlled by thermostats that control the mixing box as well as the flow valves on the convectors. The control valves at the convectors do not respond to the thermostats in many rooms requiring the occupants to manually open and close these valves.

Howlett Hall does not have a backflow valve in its domestic cold water system. One needs to be installed in the near future.

Exhaust fans are located on the roof to remove air from restrooms, common areas, meeting rooms and labs. It is anticipated that the new fans in the air handlers will alleviate the negative air pressure experienced in the building.

Howlett Hall has Johnson and Powers pneumatic control systems modified to limited digital control and is monitored by The Department of Physical Facilities.

ELECTRIC

The electrical power to the building is provided by one 1500 KVA transformer, with primary voltage of 13,200 and secondary voltage of 480/277 and a second 1500 KVA transformer with primary voltage of 13,200 secondary voltage of 208/120. There were no electrical overload conditions observed or mentioned by the building occupants. The transformers and switchgear are located in room G005M.

The building has mainly 40 watt fluorescent light fixtures throughout the building with some 32 watt fixtures. HID lighting is used for accent lighting in the main entrance and in the conference room. There is an adequate number of convenience outlets throughout the building. No problems were noted with the building electrical distribution system.

SAFETY STANDARDS

Emergency lights and lighted exit signs are fed from an emergency power panel. There is an emergency, gas fired, generator located in the basement of the headhouse. Howlett Hall is equipped with a manual fire alarm system and portable fire extinguishers. There are standpipes in the stairways and fire hose cabinets, without hoses, on every floor.

An automatic door opener has been installed at the east, ground floor entrance, where a ramp has been constructed to provide wheelchair access. An elevator then gives access to the other floors.

Individual labs and several rooms are secured using local keying to limit access, none are remotely alarmed.

ASBESTOS

The Ohio Board of Regents Facilities Asbestos Inspection and Risk Assessment Program's report: Inventory of Friable Asbestos Containing Material in Buildings of the Ohio State University (Main and Branch Campuses) and the Recommendations for Corrective Action by PEI Associates, Sept. 1986 identifies asbestos containing materials in duct insulation in room 015 and in fireproofing materials in rooms 008 and 064B. A small amount of asbestos was removed in 1992. This asbestos was contained in lab table tops.

BUILDING PERIMETER

The sidewalks on the north and west side have cracks that need to be repaired. The sidewalk on the south side has cracks and some sunken sections that need to be replaced or repaired. The asphalt area at the dock has cracks that need to be sealed. The steps at the main entrance have some settlement cracks that need to be sealed. The concrete handicap ramp leading to the east entrance has spalling concrete and deteriorating concrete at the base of the metal posts supporting the hand rail.

The lawn area on the east side has some bare spots in the grass. The lawn at the south side has been badly damaged by recent construction and needs to be regraded and resodded. The trees and shrubs appear to be in good condition.

Entrances to the building are well lighted. Area and street lighting appear to be distributed appropriately to provide adequate lighting to the areas around the building. There are identifying signs on the front of the building and at the west parking lot.

Maintenance Projects (Less than \$5000)

1. Patch and repaint area on first floor near elevator.
Work order # 01-5064-242172-64
2. Repair leaking restroom faucet in room 371t.
Work order # 01-5064-242170-64
3. Recaulk steps at southwest entrance.
Work order # 01-5063-021497-51
4. Repair/replace valves and thermostats in area 140.
Work order # 01-5064-242168-64
5. Repair convector covers in hallways on 1st and 2nd floors.
Work order # 01-5064-242168-64
6. Adjust door closer at the east entrance.
Work order # 01-5064-242174-72
7. Replace stained/missing ceiling tiles.
Work order # 01-5064-242172-64
8. Clean canopy roof drains.
Work order # 01-5064-242170-64
9. Seal cracks in black top at loading dock area.
Work order # 01-5063-021497-51
10. Repair cracks and spalling concrete in east ramp.
Work order # 01-5063-021497-51
11. Repair cracks in concrete walks on east side.
Work order # 01-5063-021497-51
12. Replace/repair depressed sections of concrete walk on south side.
Work order # 01-5063-021497-51
13. Seal settlement cracks in steps at front entrance.
Work order # 01-5063-021497-51
14. Remove ivy from north side of building.
Work order # 01-5063-021496-52
15. Repair construction damage to lawn on south side of building.
Work order # 01-5063-021496-52
16. Recaulk parapet joints.
Work order # 01-5064-242173-73
17. Clean diffusers throughout.
Work order # 01-5064-242168-64

BUILDING EVALUATION SUMMARY

I. BUILDING INFORMATION

FAC # 295 FACILITY NAME: HOWLETT HALL
 DATE: 12/96 INSPECTOR: AJR
 YEAR CONSTRUCTED: 1969
 GROSS SQ FT: 61,688 NET SQ FT: 42,973
 REPLACEMENT COST \$ 9,450,000 *

II. COMPONENT RATING

COMPONENT	BUILDING COMPONENT PERCENTAGE OF TOTAL COST **	BUILDING COMPONENT REPLACEMENT COST	CONDITION VALUE MULTIPLIER BUILDING COMPONENT	BUILDING COMPONENT CURRENT VALUE
Foundation	12.31	1,163,295	0.90	1,052,236
Columns and Beams	7.31	690,795	0.90	624,845
Exterior Walls	4.49	424,305	0.79	336,083
Ext. Windows & Doors	3.38	319,410	0.61	195,922
Roofing & Flashing	2.31	218,295	0.78	169,315
Partitions & Doors	8.46	799,470	0.84	669,844
Wall Finishes	3.00	283,500	0.77	217,368
Floor Finishes	5.38	508,410	0.75	379,643
Ceilings & Finishes	6.05	571,725	0.56	317,643
Conveying	1.69	159,705	0.75	119,256
Plumbing	15.38	1,453,410	0.61	891,501
Heating	7.38	697,410	0.61	427,782
Cooling and Vent.	8.48	801,360	0.52	418,512
Elect. Serv. & Dist.	1.46	137,970	0.78	107,625
Lighting and Power	8.92	842,940	0.68	573,246
Safety Standards	4.00	378,000	0.75	282,262
TOTALS	100.00	9,450,000	0.72	6,783,082

II. BUILDING RATING SUMMARY

Overall Building Rating = 72 %

* Replacement Cost assigned June 1996 by The Office of University Resource Planning & Institutional Analysis 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 # 295

DATE DEC.96

INSPECTOR: AJR

A. SYSTEM DESCRIPTION

	<u>N/A</u>	<u>Sat</u>	<u>Att</u>
a. Footings:			
Interior Footings/Piers <u>SPREAD FOOTERS</u>	[]	[X]	[]
Interior Footings/Bearing Walls _____	[]	[X]	[]
Perimeter Footings <u>SPREAD</u>	[]	[X]	[]
Grade Beams <u>BETWEEN SPREAD FOOTERS</u>	[]	[X]	[]
Piles _____	[X]	[]	[]
Caisson _____	[X]	[]	[]
b. Foundation Wall Materials:			
Concrete Cast-in-place _____	[]	[X]	[]
Concrete Block _____	[X]	[]	[]
Stone _____	[X]	[]	[]
Brick _____	[X]	[]	[]
Other _____	[X]	[]	[]
c. Waterproofing and Underdrain:			
Coating _____	[]	[X]	[]
Membrane _____	[X]	[]	[]
Board _____	[X]	[]	[]
Drain Tile _____	[]	[X]	[]
d. Ground/Basement Floor Slab:			
Plain _____	[X]	[]	[]
Reinforced _____	[]	[X]	[]
e. Special Substructures: _____	[X]	[]	[]

B. COMMENTS:

NO PROBLEMS WERE OBSERVED WITH THE FOUNDATION.

C. COMPONENT RATING: (\$ 1,163,300) (90 %) = \$ 1,052,200
 Possible Condition Component
 Value Value Multiplier Value

COLUMNS AND BEAMS

FAC # 295

DATE DEC.96

INSPECTOR: AJR

A. SYSTEM DESCRIPTION

a. Columns and Beams:

	N/A	Sat	Att
Reinforced Concrete _____	[]	[X]	[]
Precast Concrete _____	[X]	[]	[]
Steel <u>BEAMS IN THE FOOD PROCESSING AREA</u>	[]	[X]	[]
Fireproofing <u>CONTAINS ASBESTOS</u>	[]	[X]	[]
Wood _____	[X]	[]	[]
Other _____	[X]	[]	[]

b. Loadbearing Wall Materials:

Concrete Cast-in-place _____	[X]	[]	[]
Concrete Block _____	[X]	[]	[]
Stone _____	[X]	[]	[]
Brick _____	[X]	[]	[]
Other _____	[X]	[]	[]

c. Floor Joists:

Concrete _____	[]	[X]	[]
Steel Trusses _____	[X]	[]	[]
Wood _____	[X]	[]	[]
Other _____	[X]	[]	[]

d. Floor Decks:

Concrete Slab _____	[]	[X]	[]
Precast Slab _____	[X]	[]	[]
Metal Deck w/concrete fill _____	[X]	[]	[]
Wood _____	[X]	[]	[]

e. Roof Joists:

Concrete _____	[]	[X]	[]
Steel Trusses _____	[]	[X]	[]
Wood _____	[X]	[]	[]

f. Pitched Roof System:

Pitch []3/12, []6/12, []9/12	[X]	[]	[]
Dormers _____	[X]	[]	[]
Fireproofing _____	[X]	[]	[]
Underlayment _____	[X]	[]	[]
Insulation _____	[X]	[]	[]
Ventilation _____	[X]	[]	[]

g. Flat Roof System:

Concrete Deck _____	[]	[X]	[]
Precast Slab <u>PENTHOUSE</u>	[]	[X]	[]
Metal Deck w/concrete fill _____	[X]	[]	[]
Metal Deck _____	[X]	[]	[]
Wood Deck _____	[X]	[]	[]
Insulation <u>3@ WOOD FIBER</u>	[]	[X]	[]

B. COMMENTS:

THERE WERE NO OBSERVABLE PROBLEMS WITH THE COLUMNS OR BEAMS.

C. COMPONENT RATING: (\$ 690,800) (90 %) = \$ 624,800
 Possible Condition Component
 Value Value Multiplier Value

EXTERIOR WALLS

FAC # 295

DATE DEC.96

INSPECTOR: AJR

A. SYSTEM DESCRIPTION

a. Exterior Walls:

	N/A	Sat	Att
Concrete <input checked="" type="checkbox"/> CIP <input type="checkbox"/> PRECAST TO THE FIRST FLOOR	[]	[X]	[]
Concrete Block	[X]	[]	[]
Brick <input type="checkbox"/> Masonry <input checked="" type="checkbox"/> Veneer	[]	[]	[X]
Slab Veneer	[X]	[]	[]
Window/Curtainwall	[X]	[]	[]
Metal Siding	[X]	[]	[]
Other	[X]	[]	[]

b. Wall Lintels Over Openings:

Concrete <input type="checkbox"/> PRECAST <input type="checkbox"/> CIP	[X]	[]	[]
Limestone	[X]	[]	[]
Brick Masonry	[X]	[]	[]
Steel TO SUPPORT THE MASONRY	[]	[X]	[]
Wood	[X]	[]	[]
Other	[X]	[]	[]

c. Wall Trim:

Limestone ON NORTH SIDE OF BUILDING	[]	[X]	[]
Brick	[X]	[]	[]
Marble	[X]	[]	[]
Wood	[X]	[]	[]
Other	[X]	[]	[]

d. Finishes:

Plain CONCRETE	[]	[X]	[]
Stucco	[X]	[]	[]
Paint	[X]	[]	[]
Parging	[X]	[]	[]
Exposed Aggregate	[X]	[]	[]
Drivit	[X]	[]	[]
Other	[X]	[]	[]

e. Exterior Wall Backing System:

Concrete	[X]	[]	[]
Concrete Block	[]	[X]	[]
Brick Masonry	[X]	[]	[]
Steel Girts	[X]	[]	[]
Metal Studs	[X]	[]	[]
Wood Studs	[X]	[]	[]

B. COMMENTS:

THERE ARE CRACKS IN THE VENEER WALLS ON THE NORTH AND SOUTH SIDES OF THE LOWER LEVEL.

C. COMPONENT RATING: (\$ 424,305) (79 %) = \$ 336,100
 Possible Condition Component
 Value Value Multiplier Value

ROOFING

FAC # 295

DATE DEC.96

INSPECTOR: AJR

A. SYSTEM DESCRIPTION

a. Roof Covering/Square Feet:

		N/A	Sat	Att
Built-up []Asphalt []Coal Tar	SF	[X]	[]	[]
Built-up w/gravel []Asphalt [X]Coal Tar	27,827 SF	[]	[X]	[]
Asphalt Roll	SF	[X]	[]	[]
Asphalt Shingle	SF	[X]	[]	[]
Copper	SF	[X]	[]	[]
Slate	SF	[X]	[]	[]
Other	SF	[X]	[]	[]

b. Flashing/Lineal Feet:

Materials: []Cu [X]Galv []Al []EPDM []Asph []PVC		[]	[X]	[]
Base & Cap/Counter	335 LF	[]	[X]	[]
Reglet/Through Wall <u>LOUVERS IN PENTHOUSE</u>	12 LF	[]	[X]	[]
Valley & Ridge	LF	[X]	[]	[]
Pitch Pockets		[X]	[]	[]
Other		[X]	[]	[]

c. Gravel Stop & Edge Strips/Lineal Feet:

Type []SS []Galv [X]Al []Cu []PVC	335 LF	[]	[X]	[]
---------------------------------------	--------	-----	-----	-----

d. Drainage:

Gutters w/ Exterior Downspouts <u>PENTHOUSE ROOF</u>	140 LF	[]	[X]	[]
Scuppers w/ Exterior Downspouts		[X]	[]	[]
Drains w/ Interior Storm Drains		[]	[]	[X]
Emergency Overflow [X]YES []NO <u>OVER GRAVEL STOP</u>		[]	[X]	[]

e. Parapets/Lineal Feet:

Concrete <u>RECAULK</u>	167 LF	[]	[]	[X]
Brick/Masonry	LF	[X]	[]	[]
Other	LF	[X]	[]	[]

f. Parapet Caps:

Metal []SS []Galv [X]Al []Cu []PVC	167 LF	[]	[X]	[]
Limestone	LF	[X]	[]	[]
Precast	LF	[X]	[]	[]
Other		[X]	[]	[]

h. Roof accessories:

Equipment Curbs <u>FOR EXHAUST FANS</u>		[]	[X]	[]
Equipment Frames <u>AC UNITS</u>		[]	[X]	[]
Expansion Joints		[X]	[]	[]
Lightning Protection		[]	[X]	[]
Other		[X]	[]	[]

B. COMMENTS

- 1 THE DRAINS ON THE CANOPY ROOFS NEED TO BE CLEANED.
- 2 RECAULK PARAPET JOINTS.

C. COMPONENT RATING: (\$ 218,300) (78 %) = \$ 169,300
 Possible Condition Component
 Value Value Multiplier Value

WALL FINISHES

FAC # 295

DATE DEC.96

INSPECTOR: AJR

A. SYSTEM DESCRIPTION

a. Wall Finishes:

	N/A	Sat	Att
Paint <u>EPOXY PAINT IN CORRIDORS AND LABS</u>	[]	[]	[X]
Vinyl Wall Coverings _____	[X]	[]	[]
Paneling Prefinished _____	[X]	[]	[]
Cork _____	[X]	[]	[]
Wallpaper _____	[X]	[]	[]
Ceramic Tile <u>IN RESTROOMS</u>	[]	[X]	[]
Marble <u>AT THE FRONT ENTRANCE</u>	[]	[X]	[]
Stone _____	[X]	[]	[]
Trim & Wainscot _____	[X]	[]	[]
Glass _____	[X]	[]	[]
Other _____	[X]	[]	[]

B. COMMENTS

THE WALL FINISHES ARE IN GOOD CONDITION EXCEPT FOR A SMALL AREA ON THE FIRST FLOOR NEAR THE ELEVATOR THAT NEEDS TO BE PATCHED AND REPAINTED.

C. COMPONENT RATING: (\$ 283,500) (77 %) = \$ 217,400
 Possible Condition Component
 Value Value Multiplier Value

FLOOR FINISHES

FAC # 295

DATE DEC.96

INSPECTOR: AJR

A. SYSTEM DESCRIPTION

	N/A	Sat	Att
a. Carpet:			
Rolled <u>IN SOME OFFICE AREAS</u>	[]	[X]	[]
Tile _____	[X]	[]	[]
b. Concrete Topping:			
Clear Sealant <u>IN LAB AREAS</u>	[]	[X]	[]
Antislip _____	[X]	[]	[]
Epoxy _____	[X]	[]	[]
d. Resilient/Square Feet Common Areas:			
Vinyl Composition Tile <u>THROUGHOUT</u> 21,500 SQ FT	[]	[X]	[]
Vinyl/Plastic Tile _____	[X]	[]	[]
Asphalt Tile _____	[X]	[]	[]
Linoleum Tile _____	[X]	[]	[]
Vinyl Roll _____	[X]	[]	[]
Rubber _____	[X]	[]	[]
e. Ceramic Tile <u>[X]Mosaic []Quarry []Pavers</u>	[]	[X]	[]
f. Masonry <u>[]Marble []Granite []Slate []Brick</u>	[X]	[]	[]
g. Terrazzo <u>[X]Marble []Granite</u>	[]	[X]	[]
h. Wood <u>[]Tiles []T&G Hardwood []Planking</u>	[X]	[]	[]
h. Pedestal <u>[]Vinyl Tiles []Grills []Supply Air []Vent.</u>	[X]	[]	[]
I. Base Molding:			
Vinyl <u>IN OFFICE AREAS</u>	[]	[X]	[]
Wood _____	[X]	[]	[]
Terrazzo _____	[X]	[]	[]
Ceramic Tile _____	[]	[X]	[]
Masonry _____	[X]	[]	[]

B. COMMENTS

THE FLOORS ARE IN GOOD CONDITION. THE FLOORS ARE MAINLY VINYL ASBESTOS TILE. THERE IS A SECTION OF TERRAZZO FLOOR AT THE MAIN ENTRANCE.

C. COMPONENT RATING: (\$ 508,400) (75 %) = \$ 379,600
 Possible Condition Component
 Value Value Multiplier Value

CEILING AND FINISHES

FAC # 295

DATE DEC.96

INSPECTOR: AJR

A. SYSTEM DESCRIPTION

a. System Type:	N/A	Sat	Att
Exposed <u>IN SOME LAB AREAS</u>	[]	[X]	[]
Applied to Structure _____	[X]	[]	[]
Suspended Stud _____	[X]	[]	[]
Suspended Steel Grid _____	[X]	[]	[]
Suspended Aluminum Grid _____	[]	[X]	[]
2x4 Lay-in _____	[]	[]	[X]
2x2 Lay-in _____	[X]	[]	[]
Concealed Spline _____	[X]	[]	[]
Other _____	[X]	[]	[]

b. Materials:

Drywall _____	[X]	[]	[]
Plaster _____	[X]	[]	[]
Mineral Fiber Board _____	[]	[]	[X]
Fiberglas Board _____	[X]	[]	[]
Cementous Fiber Board _____	[X]	[]	[]
Metal Tile _____	[X]	[]	[]
Other _____	[X]	[]	[]

c. Finishes:

Paint <u>PAINTE PEELING IN RM 341</u>	[]	[]	[X]
Prefinished <u>[X]Paint []vinyl []Fabric</u>	[]	[]	[X]
Other _____	[X]	[]	[]

d. Openings & Inserts:

Air Distribution <u>DIFFUSERS NEED CLEANING</u>	[]	[]	[X]
Lighting Fixtures _____	[]	[X]	[]
Access Panels _____	[X]	[]	[]
Sprinklers _____	[X]	[]	[]
Smoke Detectors _____	[X]	[]	[]
Speakers _____	[X]	[]	[]
Skylights _____	[X]	[]	[]
Other _____	[X]	[]	[]

B. COMMENTS:

- 1 CEILING TILES ARE STAINED THROUGHOUT THE BUILDING.
- 2 PAINT IS PEELING FROM DUCTWORK IN ROOM 341.
- 3 CLEAN DIFFUSERS IN THE BUILDING.

C. COMPONENT RATING: (\$ 571,700) (56 %) = \$ 317,600
 Possible Condition Component
 Value Value Multiplier Value

CONVEYING

FAC # 295

DATE DEC.96

INSPECTOR: AJR

A. SYSTEM DESCRIPTION

a. Elevators:

	<u>N/A</u>	<u>Sat</u>	<u>Att</u>
Manufacturer <u>OTIS</u>			
Number <u>1</u>	[]	[X]	[]
Type <u>PASSENGER</u>	[]	[X]	[]
Speed <u>300 FPM</u>	[]	[X]	[]
Capacity (lbs) <u>5,000</u>	[]	[X]	[]
Dimensions <u>80@ X 86@</u>	[]	[X]	[]
Door Operation:			
Center	[X]	[]	[]
To Side	[]	[X]	[]

b. Elevators:

Manufacturer			
Number _____	[X]	[]	[]
Type _____	[X]	[]	[]
Speed _____	[X]	[]	[]
Capacity (lbs) _____	[X]	[]	[]
Dimensions _____	[X]	[]	[]
Door Operation:			
Center	[X]	[]	[]
To Side	[X]	[]	[]

c. Lifts and Hoists:

Number _____	[X]	[]	[]
Type _____	[X]	[]	[]

d. Conveyors:

Number _____	[X]	[]	[]
Type _____	[X]	[]	[]

B. COMMENTS:

THE ELEVATOR IS IN GOOD CONDITION. THERE IS A CURRENT PROJECT TO UPGRADE THIS ELEVATOR TO MEET ADA STANDARDS.

C. COMPONENT RATING: (\$ 159,700) (75 %) = \$ 119,300
 Possible Condition Component
 Value Value Multiplier Value

MECHANICAL/PLUMBING DOMESTIC

FAC # 295

DATE DEC.96

INSPECTOR: AJR

A. SYSTEM DESCRIPTION

a. Services Available:

	N/A	Sat	Att
Cold Water _____	[]	[X]	[]
Backflow Valve _____	[]	[]	[X]
Hot Water _____	[]	[X]	[]
Natural Gas _____	[]	[X]	[]
Other _____	[X]	[]	[]

b. Piping & Fittings:

Cast Iron _____	[]	[X]	[]
Copper Pipe _____	[]	[X]	[]
Copper Tubing _____	[X]	[]	[]
Steel STANDPIPES _____	[]	[X]	[]
Galv. Steel FOR DHW AND DCW _____	[]	[]	[X]
Other _____	[X]	[]	[]

c. Water Heaters:

Gas _____	[X]	[]	[]
Steam Converter/Tank <u>3@ DHW, 2@ HPS</u>	[]	[X]	[]
Steam Instantaneous _____	[X]	[]	[]
Central Hot Water _____	[X]	[]	[]

d. Drainage:

Storm Drains _____	[]	[]	[X]
Sanitary Drainage _____	[]	[]	[X]
Floor Drains _____	[]	[X]	[]

e. Fixtures: Number

Water Closets <u>17</u>	[]	[X]	[]
Urinals <u>11</u>	[]	[X]	[]
Lavatory Sinks <u>16</u>	[]	[]	[X]
Kitchen Sinks _____	[X]	[]	[]
Service Sinks <u>4</u>	[]	[X]	[]
Showers <u>4</u>	[]	[X]	[]
Electric Water Coolers <u>4</u>	[]	[X]	[]

f. Sprinkler Systems:

[X]Wet []Dry IN ROOM 007	[]	[X]	[]
Halon _____	[X]	[]	[]
Other _____	[X]	[]	[]

g. Standpipe Systems:

[X]Wet []Dry	[]	[X]	[]
Fire Hose Valves []2.5@ [X]1.25@	[]	[X]	[]

d. Underground Tanks

Fuel Oil Tank _____	[X]	[]	[]
Other _____	[X]	[]	[]

B. COMMENTS:

- 1 A BACKFLOW VALVE NEEDS TO BE INSTALLED.
 - 2 LEAKING FAUCET SHOULD BE REPAIRED.
 - 3 CLEAN SANITARY AND STORM DRAINS. 4
- REPLACE PIPING IN BASEMENT, FIRST AND SECOND FLOOR.

C. COMPONENT RATING: (\$ 1,453,400) (61 %) = \$ 891,500

Possible	Condition	Component
Value	Value Multiplier	Value

MECHANICAL/PLUMBING LABS

FAC # 295

DATE DEC.96

INSPECTOR: AJR

A. SYSTEM DESCRIPTION

a. Services Available:

	<u>N/A</u>	<u>Sat</u>	<u>Att</u>
Cold Water _____	[]	[X]	[]
Backflow Valve <u>NO BACKFLOW VALVE</u>	[]	[]	[X]
Hot Water _____	[]	[X]	[]
Acid Waste _____	[X]	[]	[]
Oxygen _____	[X]	[]	[]
Natural Gas _____	[]	[X]	[]
Vacuum _____	[X]	[]	[]
Distilled Water _____	[]	[X]	[]
Compressed Air _____	[]	[X]	[]
Steam _____	[]	[X]	[]
Other _____	[X]	[]	[]

b. Piping & Fittings:

Cast Iron _____	[]	[X]	[]
Duriron Pipe _____	[X]	[]	[]
Copper Pipe _____	[]	[X]	[]
Plastic/PVC/CPVC _____	[]	[X]	[]
Steel <u>STEAM</u>	[]	[X]	[]
Galv. Steel _____	[]	[X]	[]
Glass _____	[X]	[]	[]
Other _____	[X]	[]	[]

c. Lab Water Heaters:

Gas _____	[X]	[]	[]
Steam Converter/Tank _____	[]	[X]	[]
Steam Instantaneous _____	[X]	[]	[]
Central Hot Water _____	[X]	[]	[]

d. Underground Tanks

Neutralization Tank _____	[X]	[]	[]
Other <u>GREASE TRAP ON SOUTH SIDE OF FOOD LAB</u>	[]	[X]	[]

e. Lab Fixtures:

Lab Sinks _____	[]	[X]	[]
Emergency Showers _____	[]	[X]	[]
Eye Wash _____	[X]	[]	[]
Other _____	[X]	[]	[]

B. COMMENTS:

THE MAIN COMPLAINT WAS STOPPED-UP SINKS. WHERE NECESSARY, DRAINS NEED TO BE CLEANED.

C. COMPONENT RATING: SEE PREVIOUS PAGE FOR RATING

MECHANICAL/HEATING

FAC # 295

DATE DEC.96

INSPECTOR: AJR

A. SYSTEM DESCRIPTION

	N/A	Sat	Att
a. Heat Source:			
Central Plant Steam _____	[]	[X]	[]
Central Plant Hot Water _____	[X]	[]	[]
Boilers: Type <u>DECOMMISSIONED</u>	[X]	[]	[]
Size _____	[X]	[]	[]
Furnace/s: Type _____	[X]	[]	[]
Size _____	[X]	[]	[]
Heat Pump/s: Type _____	[X]	[]	[]
Size _____	[X]	[]	[]
b. Building Heating System Type:			
Steam _____	[X]	[]	[]
Hot Water <u>3@ LINE</u>	[]	[X]	[]
Warm Air _____	[]	[X]	[]
c. Air Handling Units:			
Multizone []Preheat []Heating []Reheat _____	[X]	[]	[]
Dual Duct []Preheat [X]Heating []Reheat _____	[]	[]	[X]
Make-up Air []Preheat [X]Heating []Reheat _____	[]	[]	[X]
Variable Volume Air []Preheat []Heating []Reheat _____	[X]	[]	[]
Constant Volume Air [X]Preheat []Heating []Reheat _____	[]	[]	[X]
Other _____	[X]	[]	[]
d. Air Filters:			
35% Prefilter []Multi []DDAHU []MUAHU []VAVAHU [X]CAV _____	[]	[X]	[]
85% Bagfilter []Multi []DDAHU []MUAHU []VAVAHU []CAV _____	[X]	[]	[]
Postfilter []Multi []DDAHU []MUAHU []VAVAHU []CAV _____	[X]	[]	[]
Other _____	[X]	[]	[]
e. Space Heating Equipment:			
Radiators _____	[X]	[]	[]
Convectors <u>AT OUTSIDE WALLS</u>	[]	[]	[X]
Unit Heaters <u>IN MECHANICAL SPACES</u>	[]	[X]	[]
Reheat Coils _____	[X]	[]	[]
VAV Boxes _____	[X]	[]	[]
CAV Boxes _____	[]	[X]	[]
DD Boxes _____	[X]	[]	[]
Fan Coil <u>AT ENTRANCES AND IN STAIRWELLS</u>	[]	[X]	[]
Other _____	[X]	[]	[]
f. Control Type:			
[X]Pneu [X] Electric []DDC [X] DDC Upgrade _____	[]	[X]	[]

B. COMMENTS:

THERMOSTAT IN 140 AREA WAS NOT CONTROLLING HEAT TO THE AREA. THERMOSTAT AND VALVES SHOULD BE CHECKED. THE FANS AND THE COILS ARE SHOWING SIGNS OF DETERIORATION AND SHOULD BE REPLACED IN THE NEXT 5 TO 10 YEARS.

C. COMPONENT RATING: (\$ 697,400) (61 %) = \$ 427,800
 Possible Condition Component
 Value Value Multiplier Value

ELECTRICAL/SERVICE & DISTRIBUTION

FAC # 295

DATE DEC.96

INSPECTOR: AJR

A. SYSTEM DESCRIPTION

a. Service:

Substation: Buckeye, McCracken Power Plant AEP

Primary Voltage: 13,200 Volts, 4,160 Volts

Switch Gear Circuit No.: 201/ 306

Transformer:

Manufacturer	Type	KVA	Secondary Voltages	Room #
<u>GEN. ELEC.</u>	<u>SILICONE</u>	<u>1500</u>	<u>208/120</u>	<u>G005</u>
<u>GEN. ELEC.</u>	<u>SILICONE</u>	<u>1500</u>	<u>480/277</u>	<u>G005</u>

b. Distribution System: Room G005 Room

1. Motor Control Center (MCC) Room G005 Room PENT.

Panelboard Fused, Circuit Breakers

Voltage 480/3, 277/3, 208/3, 240/1

Amperage 1200A, 800A, 600A, 400A, 200A

2. Lighting Room 040M Room

Panelboard Fused, Circuit Breakers

Voltage 480/3, 277/3, 208/3, 240/1

Amperage 400A, 250A, 200A, 150A, 100A

3. Building Power Room 040M Room

Panelboard Fused, Circuit Breakers

Voltage 480/3, 277/3, 208/3, 240/1

Amperage 400A, 250A, 200A, 150A, 100A

4. Isolated Ground Power (IGP) Room _____ Room

Panelboard Fused, Circuit Breakers

Voltage 480/3, 277/3, 208/3, 240/1

Amperage 400A, 250A, 200A, 150A, 100A

c. Conduit and Wire:

Conduit: Steel, Aluminum, PVC, Flexible MIT

Conductors: Copper, Aluminum,

Wire: PVC, Romex, Armored Cable(BX)

d. Emergency System:

Battery backup Room

Emergency Panel Room 013M

UPS Room

e. Emergency Generator:

Manufacturer CATERPILLAR Diesel Gasoline NG

Size 300 KVA, 480 Volts, Location, Room # 013M

B. COMMENTS:

THE ELECTRIC SERVICE WAS ADEQUATE FOR THE POWER DEMANDS AND THE OCCUPANTS HAD NO PROBLEMS WITH CONVENIENCE OUTLETS.

C. COMPONENT RATING: (\$ 138,000) (78 %) = \$ 107,600
 Possible Condition Component
 Value Value Multiplier Value

ELECTRICAL/LIGHTING & POWER

FAC # 295

DATE DEC.96

INSPECTOR: AJR

A. SYSTEM DESCRIPTION

a. Lighting (lamp type):

	N/A	Sat	Att
Fluor 40 watt _____	[]	[X]	[]
Fluor 32 watt _____	[]	[X]	[]
Fluor Can _____	[X]	[]	[]
Incandescent _____	[X]	[]	[]
HID []Mercury []HPS [X]Metal Halide _____	[]	[X]	[]
Low Voltage (12V) _____	[X]	[]	[]
Other _____	[X]	[]	[]

b. Lighting Levels

Halls _____	[]	[X]	[]
Rooms _____	[]	[X]	[]
Mechanical Rooms _____	[]	[X]	[]

c. Fixture Condition

Fixtures _____	[]	[X]	[]
Bulbs _____	[]	[X]	[]
Fixture Lens _____	[]	[X]	[]

d. Receptacles & Switches:

Wall Outlet _____	[]	[X]	[]
IGP Wall Outlet _____	[X]	[]	[]
GFIC Breakers _____	[X]	[]	[]
Switches _____	[]	[X]	[]
Cover Plates _____	[]	[X]	[]

c. Special:

Lightning Protection _____	[]	[X]	[]
UPS _____	[X]	[]	[]
Communication [X]Clock []Public Address [X]Bells _____	[]	[X]	[]
Alarm [X]Fire []Security _____	[]	[X]	[]
Telecommunication [X]Phones [X]Data []Cable TV _____	[]	[X]	[]
Data Systems _____	[]	[X]	[]
Fiber Optics _____	[]	[X]	[]

B. COMMENTS:

SOME 40 WATT FLUORESCENT LAMPS HAVE BEEN REPLACED WITH 32 WATT LAMPS. THIS PROGRAM SHOULD BE CONTINUED TO SAVE ENERGY.

C. COMPONENT RATING: (\$ 842,900) (68 %) = \$ 573,200
 Possible Condition Component
 Value Value Multiplier Value

SAFETY STANDARDS

FAC # 295

DATE DEC.96

INSPECTOR: AJR

A. SYSTEM DESCRIPTION

a. Exits:	<u>N/A</u>	<u>Sat</u>	<u>Att</u>
Stair Construction:			
concrete_____	[]	[X]	[]
steel_____	[X]	[]	[]
wood_____	[X]	[]	[]
Number of Exit Stairs <u>2</u>	[]	[X]	[]
Number of Other Exits <u>2</u>	[]	[X]	[]

b. Fire Rating:
 Construction Type: []IA/B [X]IIA/B []IIC []IIIA []IIIB []IV []V A/B
 Building Height: 49 ft., 4 stories

c. Extinguishing Systems:

Portable_____	[]	[X]	[]
Standpipe_____	[]	[X]	[]
Hose Cabinets_____	[]	[X]	[]
Sprinklers <u>ROOM 007</u>	[]	[X]	[]
Gas Suppression_____	[X]	[]	[]
Other_____	[X]	[]	[]

d. Detection & Alarm Systems:

Pull Stations_____	[]	[X]	[]
Bells_____	[]	[X]	[]
Horns_____	[X]	[]	[]
Strobes_____	[X]	[]	[]
Annunciator Panel_____	[]	[X]	[]
Smoke Detectors:			
Halls_____	[X]	[]	[]
Elevators_____	[X]	[]	[]
Rooms_____	[X]	[]	[]
Equip Rooms_____	[]	[X]	[]
Ducts_____	[]	[X]	[]

e. Lighting Systems:

Exit Signs_____	[]	[X]	[]
Exit Lighting []BATTERY [X]EMC	[]	[X]	[]
Emergency Lighting []BATTERY [X]EMC	[]	[X]	[]
Emergency Generator <u>IN HEAD HOUSE ROOM 013M</u>	[]	[X]	[]

f. Lightning Protection:_____ [] [X] []

B. COMMENTS:
EMERGENCY POWER IS SUPPLIED BY AN EMERGENCY GENERATOR LOCATED IN THE HEADHOUSE OF THE GREENHOUSES.

C. COMPONENT RATING: (\$ 378,000) (75 %) = \$ 282,300
 Possible Condition Component
 Value Value Multiplier Value

BUILDING PERIMETER EVALUATION

FAC # 295

DATE DEC.96

INSPECTOR: AJR

A. SYSTEM DESCRIPTION

a. Building Access:	N/A	Sat	Att
Driveway _____	[]	[X]	[]
Loading Dock <u>CRACKS IN BLACKTOP AND RETAINING WALL</u>	[]	[]	[X]
Sidewalks			
Front <u>NUMEROUS CRACKS IN WALK</u>	[]	[]	[X]
Side <u>WEST SIDE HAS CRACKS</u>	[]	[]	[X]
Rear <u>CRACKS AND SUNKEN SECTIONS</u>	[]	[]	[X]
Steps			
Front <u>SOME SETTLEMENT CRACKS</u>	[]	[]	[X]
Side <u>EAST SIDE HAS CRACKS</u>	[]	[]	[X]
Rear _____	[]	[X]	[]
Ramp <u>AT DOCK HAS CRACKS</u>	[]	[]	[X]
 b. Lawn and Landscaping:			
Lawn <u>SOUTH SIDE HAS BARE SPOTS</u>	[]	[]	[X]
Shrubs <u>IVY IN FRONT SHOULD BE REMOVED</u>	[]	[]	[X]
Trees _____	[]	[X]	[]
Undesirable Insect _____	[X]	[]	[]
Bedding Material _____	[]	[X]	[]
Watering System <u>UNDERGROUND SYSTEM</u>	[]	[X]	[]
Pedestrian Barrier <u>[]WOOD POSTS []STEEL POSTS</u>	[X]	[]	[]
c. General Site Information:			
Signage <u>ON BUILDING ONLY</u>	[]	[X]	[]
Address Identification <u>ON BUILDING</u>	[]	[X]	[]
Security Lights _____	[]	[X]	[]
Street Lights _____	[]	[X]	[]
Drainage _____	[]	[X]	[]
Storm Drains _____	[]	[X]	[]

B. COMMENTS:

THE WALKS AND BLACK-TOP AREAS AROUND THE BUILDING ARE IN NEED OF ATTENTION.

The Ohio State University
Department of Physical Facilities
BUILDING AUDIT METHODOLOGY

1. BUILDING AUDIT PROGRAM OBJECTIVE

To provide a building-by-building inventory, including maintenance deficiencies that currently exist, for the 172 OSU buildings that the Department of Physical Facilities is budgetary responsible. These audits will be used to establish repair and renovation projects, budget cost estimates for these projects, and overall levels of required maintenance funding.

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" sheets 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. This building replacement cost is allocated to each building component to provide an estimated value for each component. Project cost estimates will exceed the building component values in most situations because of tear-out, handling and site limitations that occur in building component replacement projects.

5. DATA USAGE

Repair and Renovation Projects: provided to assist in the budgeting process for the Department of Physical Facilities.

Building Evaluation: provided to give a numerical rating for each building on campus quantifying its percentage of deficiency.

6. 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 in regard to 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) Includes general repainting and redecorating, wholesale replacement of building and system components. on going maintenance, replacement and renovation projects are not included.

(b) Includes exterior building walls and attached items.

(c) Includes the first step up at all entries. Ramps outside the buildings are included; the steps and walks up to the ramps are not included.

(d) Blinds, drapes, light bulbs, and movable furniture are not included.

(e) Fixed equipment inside the buildings that is installed and maintained by a specific academic department or using agency is not included.

(f) Utility lines supplying the buildings are not included.

(g) 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

A/C.....	AIR CONDITIONING
AHU.....	AIR HANDLING UNIT
ATT.....	ATTENTION
BLDG.....	BUILDING
BUR.....	BUILT UP ROOF
CAV.....	CONSTANT AIR VOLUME
COND.....	CONDENSATE WATER
CIP.....	CAST IN PLACE
DDAHU.....	DUAL DUCT AIR HANDLING UNIT
DDHV.....	DUAL DUCT HIGH VELOCITY
DHWH.....	DOMESTIC HOT WATER HEATER
DHWR.....	DOMESTIC HOT WATER RETURN
DHWS.....	DOMESTIC HOT WATER SUPPLY
DHWT.....	DOMESTIC HOT WATER TANK
DX.....	DIRECT EXPANSION AIR CONDITIONER
EMC.....	EMERGENCY CIRCUIT
EWC.....	ELECTRIC WATER COOLER
FPM.....	FEET PER MINUTE
GPM.....	GALLONS PER MINUTE
HID.....	HIGH INTENSITY DISCHARGE LIGHT
HPS.....	HIGH PRESSURE STEAM (125 PSI)
HUMD.....	HUMIDIFIER
HVAC.....	HEATING, VENTILATING AND AIR CONDITIONING
IGP.....	ISOLATED GROUND POWER
KV.....	KILOVOLTS
KVA.....	KILOVOLTS AMPS
KW.....	KILOWATTS
LC.....	LIQUID COOLED
LF.....	LINEAL FEET
LPS.....	LOW PRESSURE STEAM (15 PSI)
MPS.....	MEDIUM PRESSURE STEAM (50 PSI)
MZCV.....	MULTIZONE CONSTANT VOLUME AIR HANDLING
N/A.....	NOT APPLICABLE
PSI.....	POUNDS PER SQUARE INCH
RM.....	ROOM
RTU.....	ROOF TOP UNIT (HEATING OR A/C)
SAT.....	SATISFACTORY
SF.....	SQUARE FEET
S/P.....	STAND PIPE
SR.....	STEAM RETURN LINE
SS.....	STEAM SUPPLY LINE
SY.....	SQUARE YARDS
T&G.....	TONGUE AND GROVE
TR.....	TERMINAL REHEAT
V.....	VOLTS
VAV.....	VARIABLE AIR VOLUME

Appendix
Reduced Scale Building Floor Plan
C-1 Building Space Assignments