

FACILITY AUDIT REPORT

BOYD LABORATORY

#110

FEBRUARY 1997

**Prepared by: Augustus J. R. Van Buren
The Ohio State University
Department of Physical Facilities
Division of Resource Management**

Table of Contents
BOYD LABORATORY

Executive Summary 3

General Building Information 4

Building Systems Information 5

Narrative 6

Building Evaluation Summary 10

 Foundations 11

 Columns and Beams 12

 Exterior Walls 13

 Exterior Windows & Doors 14

 Roofing 15

 Partitions & Doors 16

 Wall Finishes 17

 Floor Finishes 18

 Ceilings and Finishes 19

 Conveying 20

 Mechanical/Plumbing Domestic 21

 Mechanical/Plumbing Labs 22

 Mechanical/Heating 23

 Cooling & Ventilating 24

 Electrical/Service & Distribution 25

 Electrical/Lighting & Power 26

 Safety Standards 27

 Building Perimeter Evaluation 28

Building Audit Methodology 29

Abbreviations 31

Appendix 31

 BUILDING FLOOR PLANS

 C-1 BUILDING SPACE ASSIGNMENTS

**EXECUTIVE SUMMARY AND PROJECT LIST FOR
BOYD LABORATORY**

Boyd Laboratory was completed in 1933. The building is connected to Johnston Laboratory on the south side and Haskett Hall on the east side. It was originally occupied by the Highway Testing Laboratory for the Ohio Department of Transportation. The original cost of the building was \$85,000. The Ohio State University took over the building in 1961. After extensive remodeling, the building was assigned to the Department of Engineering Mechanics, in 1965. Boyd Laboratory has three stories with no basement. The building is structurally sound and the interior has been repainted in recent years. New ceiling tiles, along with new 32 watt light fixtures give the building a good appearance. There are some major service components that will need attention in the next five to ten years. The chillers and the air handling unit will need to be replaced. The single glazed windows should be replaced with double glazed, thermal-break windows. The elevator is 40 years old with a speed of 50 feet/minute. There is a project identified to replace it with a faster moving unit. The exterior walls should be cleaned and sealed. There is a copper cover at the perimeter of the roof that should be replaced.

PROPOSED MAINTENANCE PROJECTS

A. Corrective Maintenance Projects:		Control No.
Clean and seal the exterior wall.	\$ 35,000	
SUB-TOTAL	\$ 25,000	
B. Building Improvement/Addition Projects:		
Replace single glazed Windows.	\$ 129,000	1698
SUB-TOTAL	\$ 129,000	
C. Building Component Replacements expected within the next 5 to 10 years:		
Replace elevator.	\$ 110,000	1860
Replace the copper cover at the roof perimeter.	15,000	
Replace the two 40 ton chillers and air handling units.	\$ 225,000	
SUB-TOTAL	\$ 350,000	
TOTAL COST FOR ALL PROJECTS	\$ 514,000	

GENERAL BUILDING INFORMATION

BOYD LABORATORY # 110

BUILDING ADDRESS: 155 WEST WOODRUFF AVE.

GROSS SQ. FT.: 22,756

NET ASSIGNABLE SQ. FT.: 12,933

MECHANICAL/CUSTODIAL AREA SQ. FT.: 2,217

YEAR OF CONSTRUCTION: 1933

YEARS OF ADDITIONS: NONE

YEAR OF LAST RENOVATION: 1965

NUMBER OF STORIES/BASEMENT: 3

AIR CONDITIONING (Percentage): 90

CURRENT USE: MECHANICS LABORATORIES, CLASSROOMS AND OFFICES

TYPE OF CONSTRUCTION: REINFORCED CONCRETE WITH MASONRY SKIN

ESTIMATED REPLACEMENT COST (ERC): 3,212,000*

WHEELCHAIR ACCESSIBILITY: ACCESS THROUGH NORTH ENTRANCE WITH ELEVATOR TO ALL FLOORS.

OVERALL BUILDING CONDITION: SATISFACTORY **

NUMBER OF EXIT STAIRWAYS: ONE

NUMBER OF EXITS: THREE

AREA SHOP RESPONSIBILITY: NORTHEAST

* Replacement Cost assigned Jun, 1996 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

BOYD LABORATORY # 110

HEATING:

Source POWER PLANT

Type Heating System HOT WATER

Main Steam Feed (Line size, valve location) N/A

Building Htg. Water (line size, valve location) 4@ IN ROOM 104M

VENTILATION SYSTEM:

OUTSIDE AIR TO THE AIR HANDLING UNITS AND ROOM EXHAUST

COOLING:

BLDG % 90 Chillers TWO CARRIER RECIPROCATING - TOTAL 80 TONS

Window Units 1 Thru-the-wall NONE Direct exp. units NONE

HVAC CONTROL SYSTEM:

PNEUMATIC AND ELECTRIC

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

1. PGN5/PGS5 1000 13,200/208 RM110M (FROM HASKETT)

PLUMBING SERVICES:

Water (size, valve location) 4@ ROOM 104M

Gas (size, valve location) 1@ FROM HASKETT HALL

Domestic Hot Water (size, valve location) 1 1/2@ , ROOM 104M

Compressed Air (size, location) 1@ IN ROOM 302M

SEWERS:

Storm 2 @ 8@ Sanitary 2 @ 4@

Combined Storm/San. NONE

METERS:

Gas (size, location) FROM HASKETT HALL

Water (size, location) 4@ , ROOM 104M

Electric (size, location) NONE

ALARM SYSTEMS:

Fire Alarm, Main Panel Room 110M , Remote Panel Location Room

Fire Pump @ NONE Pump Location, Room

Sprinklers, Valve Location Room N/A , 100%, Partial, Limited

Horns/Strobes, Bells in Halls, Rooms

Other Alarms NONE

ELEVATORS:

Number ONE Type (passenger, freight) PASSENGER 2500#

Manufacturer OTIS Size 56@ X 74@

EMERGENCY GENERATOR:

Size NONE Location N/A

ASBESTOS SURVEY (1986): FOUND IN PIPE INSULATION IN ROOM 302M

BOYD LABORATORY NARRATIVE

HISTORY

Boyd Laboratory was completed in 1933 and was occupied by the Highway Testing Laboratory for the Ohio Department of Transportation. The Ohio State University took over the building in 1961. After extensive remodeling, the building was assigned to the Department of Engineering Mechanics in 1965. The building has had some cosmetic improvements since 1965, but no major systems upgrades. The building is occupied by the Department of Aerospace Engineering, Applied Mechanics and Aviation.

A review of the work orders indicated that there are a normal number of emergency and maintenance calls to the building. There are four major projects identified for this building. There are also some minor projects recommended in this report that will enhance the building's appearance.

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.

Occupancy of the building reported by The Office of University Resource Planning & Institutional Analysis in the C-1 Building Space Assignment Report, dated June 1996, lists a net assignable area of 12,909 SF. Building use by room category is 30% offices, 22% classrooms, 33% laboratories and 15% mechanical/custodial.

PRIMARY SYSTEMS

Boyd Laboratory is built on individual interior footings, with cast-in-place concrete walls at the perimeter of the building. The 3-story building has reinforced concrete columns. The floors are poured-in-place concrete with concrete joists. There are no indications of problems with the basic structure of the building.

The exterior consists of brick veneer with limestone trim at ground and second floor level. There are decorative brick formations at the third floor level. The exterior of the building is in good condition but needs to be cleaned and sealed.

The built-up roof was replaced in 1982. The aleigator appearance of the roof would lead one to deduce a much older roof, but a review of the work orders and the records available at the tin shop shows no need to replace the roof in the near future. The copper cover at the perimeter of the roof has had extensive repairs and needs to be replaced. Replacement of this cover could be done with a more cost effective material such as steel or aluminum. The seams of the parapet cap need to be recaulked.

The building has aluminum, single-glazed, hopper style windows that were installed during the 1965 renovation. There is an unfunded project identified to replace these windows with double-glazed units. The exterior aluminum doors were installed during the 1965 renovation and are in good condition except for the lack of weather stripping.

SECONDARY SYSTEMS

The interior partitions are composed of concrete block walls with some painted plaster surfaces in the corridors. Most of the walls have been recently repainted and are in good condition. There is extensive peeling paint on the walls of the west stairwell. These walls need to be repainted. The upper wall in the east stairwell needs to be repaired and repainted. A small area next to the elevator needs to be repainted as well as areas around the soap dispensers in the restrooms. The metal partitions in the restrooms are in good condition.

The ceilings are mainly suspended, 2 X 4 tiles except for the exposed ceilings in the mechanical rooms and in lab 102. There are some stained ceiling tiles in room 315. For the remainder, the ceilings are in good condition.

The floor covering in the building is vinyl tiles with no carpeting. The mechanical rooms and lab 102 have concrete floors with a clear sealant coat. The restrooms have vinyl tile floors. Overall, the floor coverings are in good condition, except for some broken tiles in the east corridor.

SERVICE SYSTEMS

The building has one elevator that is some what slow (50fpm) but functioning at this time. The elevator was installed in the 1950's and is at the end of its useful life. There is an unfunded project to replace this elevator with a faster model and one that meets ADA standards and today's code requirements.

All of the major service systems are in good condition. However, the two forty ton chillers are at the end of their useful life and should be scheduled for replacement.

The plumbing system is functioning adequately with good water pressure in the restrooms. There were only two minor problems noted during the audit. The cold water faucet in room 310T would not allow cold water to flow and the water cooler on the first floor did not shut off the water completely. The plumbing fixtures were replaced during the 1965 renovation and are in good order. Domestic hot water is supplied by a hot water line from Haskett Hall.

The building has a hot water heating system. Hot water is supplied by steam converters located in Haskett Hall. The hot water supplies heat to the convectors located at the perimeter of the building, to fan coil units located at the entrances and to the heating coils in the air handling unit located in room 302M. The heating system is in good condition.

Cooling and ventilation is provided by a dual duct system that has been modified to a modified variable air volume system. Chilled water is provided by two 40-ton chillers, with air-cooled compressors located on the roof. Although the chillers were rebuilt in 1988, the units are at the end of their useful life and should be replaced. There were no complaints noted by the building occupants as to the adequacy of the cooling capacity of the system. The fans in the mens restrooms on the first and third floors are not functioning and need to be repaired.

Boyd Laboratory has no digital control system and all controls are pneumatic and electric.

ELECTRIC

The electrical power to the building is provided by a 1000 KVA transformer, which also supplies Johnston Laboratory and Haskett Hall. The switch gear is located in room 101M of Johnston Laboratory, with distribution panels located in room 110M of Boyd Laboratory. These 800 amp panels supply the entire building except the mechanical room 302M. There are two panels located in room 302M, one with 800 amps and one with 1200 amps. There were no signs of or complaints about inadequate electric service to the building.

The building has 32 watt fluorescent light fixtures throughout the building. Incandescent lighting is used at the entrances to the building. The light covers at the north entrance need to be replaced.

SAFETY STANDARDS

Emergency lights and lighted exit signs are provided by an emergency circuit. There is no emergency generator. Boyd Laboratory is equipped with a manual fire alarm system and portable fire extinguishers. There are no standpipes or sprinklers in the building.

Automatic door openers have been installed at the west entrance and north entrances which give access to the elevator. The elevator then gives access to the other floors.

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 pipe insulation in room 320M.

BUILDING PERIMETER

There is no driveway or loading dock at the Boyd Laboratory. The asphalt sidewalk on the north side of the building needs to be resurfaced. The lawn on the north side of the building has tire tracks that should be repaired. The shrubs on the west side of the building need to be trimmed back from obstructing the sidewalks. There are burned out light bulbs at the north and west entrances that need to be replaced.

Entrances to the building are well lighted. Area and street lighting appear to be distributed properly. There are building signs at Woodruff Avenue and at the north and west entrances of the building.

Maintenance Projects (Less than \$5000)

1. Repaint west stairwell wall.
Work order # 01-5064-276406-60
2. Repaint a patch at elevator on first floor, prep and paint both entrance canopies.
Work order # 01-5064-276390-66
3. Repair/repaint upper wall in east stairwell.
Work order # 01-5064-276406-60
4. Paint patches around soap dispensers in restrooms.
Work order # 01-5064-276390-66
5. Replace stained ceiling tiles in rooms 311 and 315.
Work order # 01-5064-276392-66
6. Repair floor tiles in east corridor.
Work order # 01-5064-276394-71
7. Repair faucet in room 301T.
Work order # 01-5064-276400-66
8. Repair exhaust fans in men's rooms on 1st and 3rd floors.
Work order # 01-5064-276402-66
9. Replace bulbs and lenses in lights at north and west entrances.
Work order # 01-5064-276404-66
10. Recaulk joints in parapet wall.
Work order # 01-5064-276406-60
11. Resurface asphalt sidewalk on the north side of building.
Work order # 01-5063-024950-51

BUILDING EVALUATION SUMMARY

I. BUILDING INFORMATION

FAC # 110 FACILITY NAME: BOYD LABORATORY
 DATE: 2/97 INSPECTOR: AJR
 YEAR CONSTRUCTED: 1933
 GROSS SQ FT: 22,756 NET SQ FT: 12,933
 REPLACEMENT COST \$ 3,212,000 *

II. COMPONENT RATING

COMPONENT	BUILDING COMPONENT PERCENTAGE OF TOTAL COST **	BUILDING COMPONENT REPLACEMENT COST	BUILDING COMPONENT CONDITION VALUE MULTIPLIER	BUILDING COMPONENT CURRENT VALUE
Foundation	5.18	166,410	0.82	137,207
Columns and Beams	9.09	291,947	0.82	240,714
Exterior Walls	5.36	172,249	0.80	137,121
Ext. Windows & Doors	4.54	145,973	0.65	95,377
Roofing & Flashing	2.73	87,584	0.73	64,235
Partitions & Doors	8.67	278,517	0.72	200,548
Wall Finishes	2.73	87,584	0.92	80,293
Floor Finishes	5.00	160,571	0.72	115,620
Ceilings & Finishes	7.14	229,470	0.90	206,544
Conveying	2.82	90,504	0.72	65,167
Plumbing	10.00	321,142	0.80	256,937
Heating	8.73	280,269	0.69	192,466
Cooling and Vent.	10.00	321,142	0.57	181,989
Elect. Serv. & Dist.	1.73	55,470	0.72	39,941
Lighting and Power	11.45	367,853	0.72	264,874
Safety Standards	4.84	155,316	0.72	111,836
TOTALS	100.00	3,212,000	0.74	2,390,870

II. BUILDING RATING SUMMARY

Overall Building Rating = 74%

* 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 # 110

DATE FEB.97

INSPECTOR: AJR

A. SYSTEM DESCRIPTION

	N/A	Sat	Att
a. Footings:			
Interior Footings/Piers _____	[]	[X]	[]
Interior Footings/Bearing Walls _____	[X]	[]	[]
Perimeter Footings _____	[]	[X]	[]
Grade Beams _____	[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:

1 NO PROBLEMS WERE OBSERVED WITH THE FOUNDATION.

C. COMPONENT RATING: (\$ 166,400) (82 %) = \$ 137,200
 Possible Condition Component
 Value Value Multiplier Value

COLUMNS AND BEAMS

FAC # 110

DATE FEB.97

INSPECTOR: AJR

A. SYSTEM DESCRIPTION

	N/A	Sat	Att
a. Columns and Beams:			
Reinforced Concrete _____	[]	[X]	[]
Precast Concrete _____	[X]	[]	[]
Steel BEAMS ON FIRST FLOOR AND AT CRANE RAIL _____	[]	[X]	[]
Fireproofing _____	[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 _____	[X]	[]	[]
Metal Deck w/concrete fill _____	[X]	[]	[]
Metal Deck FOR PENTHOUSE ROOF _____	[]	[X]	[]
Wood Deck _____	[X]	[]	[]
Insulation 2@ CEL-O-THERM _____	[]	[X]	[]

B. COMMENTS:

THERE WERE SOME MINOR SETTLEMENT CRACKS NOTED.

C. COMPONENT RATING: (\$ 291,900) (82 %) = \$ 240,700
 Possible Condition Component
 Value Value Multiplier Value

EXTERIOR WINDOWS & DOORS

FAC # 110

DATE FEB.97

INSPECTOR: AJR

A. SYSTEM DESCRIPTION

	N/A	Sat	Att
a. Window materials:			
Wood _____	[X]	[]	[]
Steel _____	[X]	[]	[]
Alum _____	[]	[X]	[]
PVC _____	[X]	[]	[]
Other _____	[X]	[]	[]
b. Windows type & number:			
Single Hung _____	[X]	[]	[]
Double Hung _____	[X]	[]	[]
Casement _____	[X]	[]	[]
Pivoted <u>69</u> _____	[]	[X]	[]
Sliding _____	[X]	[]	[]
Fixed <u>2</u> _____	[]	[X]	[]
Other _____	[X]	[]	[]
c. Window glazing:			
Single pane _____	[]	[X]	[]
Double pane [] 5/8@ [] 1@ [] Seals Broken	[X]	[]	[]
d. Window Wall and/or Store Front:			
Store Front _____	[X]	[]	[]
Vestibule _____	[]	[X]	[]
Single pane _____	[X]	[]	[]
Double pane _____	[X]	[]	[]
Other _____	[X]	[]	[]
e. Door Materials:			
Wood _____	[X]	[]	[]
Steel _____	[X]	[]	[]
Alum <u>AT ALL ENTRANCES</u> _____	[]	[X]	[]
Other _____	[X]	[]	[]
f. Doors type & number:			
Vestibule Double <u>1</u> _____	[]	[]	[X]
Double <u>2</u> _____	[]	[]	[X]
Exit <u>3</u> _____	[]	[X]	[]
Stair Exit <u>1</u> _____	[]	[X]	[]
Garage _____	[X]	[]	[]
Other _____	[X]	[]	[]
g. Hardware:			
Automatic Opener <u>WEST AND NORTH ENTRANCES</u> _____	[]	[X]	[]
Push Bar Openers wt Closures _____	[]	[X]	[]
Weather Stripping _____	[]	[X]	[]
Key Cards _____	[X]	[]	[]

B. COMMENTS:

THE WINDOWS AND DOORS WERE ALL REPLACED IN THE 1965 RENOVATION AND ARE IN GOOD CONDITION THOUGH NOT ENERGY EFFICIENT. THE EXTERIOR DOORS NEED WEATHER STRIPPING.

C. COMPONENT RATING: (\$ 146,000) (65 %) = \$ 95,377
 Possible Condition Component
 Value Value Multiplier Value

ROOFING

FAC # 110

DATE FEB.97

INSPECTOR: AJR

A. SYSTEM DESCRIPTION

		N/A	Sat	Att
a. Roof Covering/Square Feet:				
Built-up []Asphalt []Coal Tar	SF	[X]	[]	[]
Built-up w/gravel [X]Asphalt []Coal Tar	7,633 SF	[]	[X]	[]
Asphalt Roll	SF	[X]	[]	[]
Asphalt Shingle	SF	[X]	[]	[]
Copper	SF	[X]	[]	[]
Slate	SF	[X]	[]	[]
Other	SF	[X]	[]	[]
b. Flashing/Lineal Feet:				
Materials: [X]Cu []Galv [X]Al []EPDM []Asph []PVC		[]	[X]	[]
Base & Cap/Counter	360 LF	[]	[X]	[]
Reglet/Through Wall	360 LF	[]	[X]	[]
Valley/Hip/Ridge	LF	[X]	[]	[]
Pitch Pockets		[X]	[]	[]
Other		[X]	[]	[]
c. Gravel Stop & Edge Strips/Lineal Feet:				
Type []SS []Galv [X]Al []Cu []PVC	80 LF	[]	[X]	[]
d. Drainage:				
Gutters w/ Exterior Downspouts <u>AT PENTHOUSE ROOF</u>	33 LF	[]	[X]	[]
Scuppers w/ Exterior Downspouts		[X]	[]	[]
Drains w/ Interior Storm Drains		[]	[X]	[]
Emergency Overflow []YES [X]NO		[X]	[]	[]
e. Parapets/Lineal Feet:				
Concrete	LF	[X]	[]	[]
Brick/Masonry	360 LF	[]	[X]	[]
Other	LF	[X]	[]	[]
f. Parapet Caps:				
Metal []SS []Galv []Al [X]Cu []PVC	280 LF	[X]	[]	[]
Limestone <u>SEAMS NEED TO BE SEALED</u>	80 LF	[]	[]	[X]
Precast	LF	[X]	[]	[]
Other		[X]	[]	[]
h. Roof accessories:				
Equipment Curbs		[X]	[]	[]
Equipment Frames		[X]	[]	[]
Expansion Joints		[X]	[]	[]
Lightning Protection		[X]	[]	[]
Other <u>COPPER COVER AT PERIMETER</u>		[]	[]	[X]

B. COMMENTS

THE BUR ROOF WAS REPLACED IN 1982, BOTH AT THE FIRST FLOOR ROOF AND AT THE THIRD FLOOR ROOF. THE COPPER COVER AT THE NORTH, WEST AND THE SOUTH SIDE OF THE ROOF SHOULD BE REPLACED. THE JOINTS IN THE LIMESTONE CAP NEED TO BE RECAULKED. THE METAL AROUND THE CANOPY ROOFS ON THE NORTH, WEST AND SOUTH SIDE NEED TO BE REPAINTED. THE ROOF DRAINS NEED TO BE CLEANED.

C. COMPONENT RATING: (\$ 87,600) (73 %) = \$ 64,200
 Possible Condition Component
 Value Value Multiplier Value

PARTITIONS & DOORS

FAC # 110

DATE FEB.97

INSPECTOR: AJR

A. SYSTEM DESCRIPTION

a. Partition Framing:	<u>N/A</u>	<u>Sat</u>	<u>Att</u>
Concrete Block <u>PREDOMINANTLY</u>	[]	[X]	[]
Clay Tile Block _____	[X]	[]	[]
Masonry _____	[X]	[]	[]
Wood Stud _____	[X]	[]	[]
Metal Stud <u>IN SOME OFFICES</u>	[]	[X]	[]
Other _____	[X]	[]	[]
c. Special partitions and Walls:			
Demountable _____	[X]	[]	[]
Toilet <u>METAL PARTITIONS</u>	[]	[X]	[]
Screen Walls _____	[X]	[]	[]
Glass Storefront <u>IN SECOND FLOOR OFFICE AREA</u>	[]	[X]	[]
Fence Cage _____	[X]	[]	[]
Other _____	[X]	[]	[]
d. Wall Material:			
Plaster <u>LIMITED</u>	[]	[]	[X]
Drywall <u>IN SOME OFFICES</u>	[]	[X]	[]
Glass _____	[X]	[]	[]
Wood Paneling _____	[X]	[]	[]
Composite Paneling _____	[X]	[]	[]
Steel Panels _____	[X]	[]	[]
Tile/Glazed _____	[X]	[]	[]
Other _____	[X]	[]	[]
e. Interior Doors & Frames:			
Met Door/Met Frame <u>MECHANICAL ROOMS</u>	[]	[X]	[]
Wood Door/Wood Frame _____	[X]	[]	[]
Wood Door/Metal Frame <u>THROUGHOUT</u>	[]	[X]	[]
Firedoors <u>AT STAIRWELLS</u>	[]	[X]	[]
Glazing <u>LIMITED</u>	[]	[X]	[]
Roll-up _____	[X]	[]	[]
Sliding _____	[X]	[]	[]
Other _____	[X]	[]	[]
f. Hardware:			
Door [X]Knobs []Levers _____	[]	[X]	[]
Door Closures _____	[]	[X]	[]
Kick/Push Plates _____	[]	[X]	[]
Security & Detection _____	[X]	[]	[]
Automatic Openers <u>AT WEST AND NORTH ENTRANCES</u>	[]	[X]	[]
Fire Door Magnets _____	[]	[X]	[]
Other _____	[X]	[]	[]

B. COMMENTS:

THE PARTITIONS AND DOORS ARE IN GOOD CONDITION. THERE IS SOME PLASTER THAT NEEDS TO BE REPAIRED IN ROOM 110M.

C. COMPONENT RATING: (\$ 278,500) (72 %) = \$ 200,500
 Possible Condition Component
 Value Value Multiplier Value

WALL FINISHES

FAC # 110

DATE FEB.97

INSPECTOR: AJR

A. SYSTEM DESCRIPTION

a. Wall Finishes:

	<u>N/A</u>	<u>Sat</u>	<u>Att</u>
Paint_____	[]	[]	[X]
Vinyl Wall Coverings_____	[X]	[]	[]
Paneling Prefinished_____	[X]	[]	[]
Cork_____	[X]	[]	[]
Wallpaper_____	[X]	[]	[]
Ceramic Tile_____	[X]	[]	[]
Marble_____	[X]	[]	[]
Stone_____	[X]	[]	[]
Trim & Wainscot_____	[X]	[]	[]
Glass_____	[X]	[]	[]
Other_____	[X]	[]	[]

B. COMMENTS

THE WALL FINISHES ARE IN GOOD CONDITION EXCEPT FOR AREAS IN THE EAST AND WEST STAIRWELLS, A SMALL AREA NEXT TO THE ELEVATOR, AND ALL RESTROOMS WHERE SOAP CONTAINERS HAVE BEEN REMOVED. THE SOUTH WALL IN ROOM 102 HAS SUSTAINED WATER DAMAGE AND NEEDS TO BE REPAIRED AND REPAINTED.

C. COMPONENT RATING: (\$ 87,600) (92 %) = \$ 80,300
 Possible Condition Component
 Value Value Multiplier Value

FLOOR FINISHES

FAC # 110

DATE FEB.97

INSPECTOR: AJR

A. SYSTEM DESCRIPTION

	<u>N/A</u>	<u>Sat</u>	<u>Att</u>
a. Carpet:			
Rolled _____	[X]	[]	[]
Tile _____	[X]	[]	[]
b. Concrete Topping:			
Clear Sealant <u>IN MECHANICAL ROOMS AND LAB 102</u>	[]	[X]	[]
Antislip _____	[X]	[]	[]
Epoxy _____	[X]	[]	[]
d. Resilient/Square Feet Common Areas:			
Vinyl Composition Tile <u>9@ X 9@ FLOOR TILE</u>	[]	[]	[X]
Vinyl/Plastic Tile _____	[X]	[]	[]
Asphalt Tile _____	[X]	[]	[]
Linoleum Tile _____	[X]	[]	[]
Vinyl Roll _____	[X]	[]	[]
Rubber _____	[X]	[]	[]
e. Ceramic Tile <u>[X]Mosaic [X]Quarry RESTROOMS, SOUTH ENTR.</u>	[]	[X]	[]
f. Masonry <u>[]Marble []Granite []Slate []Brick</u>	[X]	[]	[]
g. Terrazzo <u>[]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 _____	[]	[X]	[]
Wood _____	[X]	[]	[]
Terrazzo _____	[X]	[]	[]
Ceramic Tile _____	[X]	[]	[]
Masonry _____	[X]	[]	[]

B. COMMENTS

THE FLOORS ARE IN GOOD CONDITION EXCEPT IN THE EAST CORRIDOR WHERE THERE ARE SOME CRACKED TILES. THE CONCRETE FLOOR WILL NEED TO BE RELEVELLED BEFORE INSTALLATION OF NEW TILES.

C. COMPONENT RATING: (\$ 160,600) (72 %) = \$ 115,600
 Possible Condition Component
 Value Value Multiplier Value

CEILING AND FINISHES

FAC # 110

DATE FEB.97

INSPECTOR: AJR

A. SYSTEM DESCRIPTION

a. System Type:	<u>N/A</u>	<u>Sat</u>	<u>Att</u>
Exposed <u>IN MECHANICAL ROOMS AND LAB 102</u>	[]	[X]	[]
Applied to Structure _____	[X]	[]	[]
Suspended Stud _____	[X]	[]	[]
Suspended Steel Grid _____	[X]	[]	[]
Suspended Aluminum Grid <u>THROUGHOUT</u>	[]	[X]	[]
2x4 Lay-in _____	[]	[]	[X]
2x2 Lay-in _____	[X]	[]	[]
Concealed Spline _____	[X]	[]	[]
Other _____	[X]	[]	[]

b. Materials:

Drywall _____	[X]	[]	[]
Plaster _____	[]	[X]	[]
Mineral Fiber Board <u>SOME STAINED TILES</u>	[]	[]	[X]
Fiberglas Board _____	[X]	[]	[]
Cementous Fiber Board _____	[X]	[]	[]
Metal Tile _____	[X]	[]	[]
Other _____	[X]	[]	[]

c. Finishes:

Paint _____	[]	[]	[X]
Prefinished [X]Paint []vinyl []Fabric	[]	[]	[X]
Other _____	[X]	[]	[]

d. Openings & Inserts:

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

B. COMMENTS:

THERE ARE SOME STAINED CEILING TILES ON THE THIRD FLOOR. THERE IS PEELING PAINT IN THE WEST AND EAST STAIRWELLS.

C. COMPONENT RATING: (\$ 229,500) (90 %) = \$ 206,500
 Possible Condition Component
 Value Multiplier Value

CONVEYING

FAC # 110

DATE FEB. 97

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>50 FPM</u>	[]	[X]	[]
Capacity (lbs) <u>2,500</u>	[]	[X]	[]
Dimensions <u>74@ X 56@</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 FAIR CONDITION BUT IS AT THE END OF ITS USEFUL LIFE AND SHOULD BE REPLACED WITH ONE THAT MEETS TODAY'S REQUIREMENTS.

C. COMPONENT RATING: (\$ 90,500) (72 %) = \$ 65,200
 Possible Condition Component
 Value Value Multiplier Value

MECHANICAL/PLUMBING DOMESTIC

FAC # 110

DATE FEB.97

INSPECTOR: AJR

A. SYSTEM DESCRIPTION

a. Services Available:	<u>N/A</u>	<u>Sat</u>	<u>Att</u>
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 _____	[X]	[]	[]
Galv. Steel _____	[X]	[]	[]
Other _____	[X]	[]	[]
c. Water Heaters:			
Gas _____	[X]	[]	[]
Steam Converter/Tank _____	[X]	[]	[]
Steam Instantaneous _____	[X]	[]	[]
Central Hot Water <u>FROM HASKETT HALL</u>	[]	[X]	[]
d. Drainage:			
Storm Drains <u>2 @ 8@</u>	[]	[X]	[]
Sanitary Drainage <u>2 @ 4@</u>	[]	[X]	[]
Floor Drains _____	[]	[X]	[]
e. Fixtures: Number			
Water Closets <u>8</u>	[]	[X]	[]
Urinals <u>5</u>	[]	[X]	[]
Lavatory Sinks <u>8</u>	[]	[]	[X]
Kitchen Sinks _____	[X]	[]	[]
Service Sinks <u>3</u>	[]	[X]	[]
Showers _____	[X]	[]	[]
Electric Water Coolers <u>3</u>	[]	[]	[X]
f. Sprinkler Systems:			
[]Wet []Dry <u>LIMITED AREAS ON ALL FLOORS</u>	[]	[X]	[]
Halon _____	[X]	[]	[]
Other _____	[X]	[]	[]
g. Standpipe Systems:			
[]Wet []Dry _____	[X]	[]	[]
Fire Hose Valves []2.5@ []1.25@ _____	[X]	[]	[]
d. Underground Tanks			
Fuel Oil Tank _____	[X]	[]	[]
Other _____	[X]	[]	[]

B. COMMENTS:

THE PLUMBING SYSTEM IS IN GOOD CONDITION BUT LACKS A BACKFLOW VALVE. THE FAUCET IN ROOM 310T DOES NOT FUNCTION AND THE WATER COOLER ON THE FIRST FLOOR DOES NOT SHUT OFF.

C. COMPONENT RATING: (\$ 321,100) (80 %) = \$ 256,900
 Possible Condition Component
 Value Value Multiplier Value

MECHANICAL/PLUMBING LABS

FAC # 110

DATE FEB.97

INSPECTOR: AJR

A. SYSTEM DESCRIPTION

a. Services Available:

	<u>N/A</u>	<u>Sat</u>	<u>Att</u>
Cold Water_____	[]	[X]	[]
Backflow Valve_____	[]	[]	[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_____	[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_____	[X]	[]	[]

e. Lab Fixtures:

Lab Sinks_____	[]	[X]	[]
Emergency Showers_____	[X]	[]	[]
Eye Wash_____	[X]	[]	[]
Other_____	[X]	[]	[]

B. COMMENTS:

ONE LAB ON THE FIRST FLOOR, AREA 102.

C. COMPONENT RATING: SEE PREVIOUS PAGE FOR RATING.

MECHANICAL/HEATING

FAC # 110

DATE FEB.97

INSPECTOR: AJR

A. SYSTEM DESCRIPTION

	<u>N/A</u>	<u>Sat</u>	<u>Att</u>
a. Heat Source:			
Central Plant Steam _____	[X]	[]	[]
Central Plant Hot Water <u>FROM HASKETT HALL</u>	[]	[X]	[]
Boilers: Type _____	[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 _____	[]	[X]	[]
Warm Air _____	[X]	[]	[]
c. Air Handling Units:			
Multizone []Preheat []Heating []Reheat _____	[X]	[]	[]
Dual Duct [X]Preheat [X]Heating []Reheat _____	[]	[]	[X]
Make-up Air []Preheat []Heating []Reheat _____	[X]	[]	[]
Variable Volume Air []Preheat []Heating []Reheat _____	[X]	[]	[]
Constant Volume Air []Preheat []Heating []Reheat _____	[X]	[]	[]
Other _____	[X]	[]	[]
d. Air Filters:			
35% Prefilter []Multi [X]DDAHU []MUAHU []VAVAHU []CAV _____	[]	[X]	[]
85% Bagfilter []Multi []DDAHU []MUAHU []VAVAHU []CAV _____	[X]	[]	[]
Postfilter []Multi []DDAHU []MUAHU []VAVAHU []CAV _____	[X]	[]	[]
Other _____	[X]	[]	[]
e. Space Heating Equipment:			
Radiant panels _____	[X]	[]	[]
Convectors <u>AT THE PERIMETER</u>	[]	[X]	[]
Unit Heaters _____	[X]	[]	[]
Reheat Coils _____	[X]	[]	[]
VAV Boxes _____	[X]	[]	[]
CAV Boxes _____	[X]	[]	[]
DD Boxes _____	[]	[X]	[]
Fan Coil <u>2 PIPE UNITS</u>	[]	[X]	[]
Other _____	[X]	[]	[]
f. Control Type:			
[X]Pneu [X] Electric []DDC [] DDC Upgrade _____	[]	[X]	[]

B. COMMENTS:

THE BUILDING IS HEATED BY CONVECTORS AT THE PERIMETER OF THE BUILDING, WITH 2-PIPE FAN COIL UNITS AT THE ENTRANCES. THERE WERE NO PROBLEMS NOTED OR EXPRESSED BY THE BUILDING OCCUPANTS. THE FANS AND AIR HANDLING UNIT ARE AT THE END OF THEIR USEFUL LIFE.

C. COMPONENT RATING: (\$ 208,300) (69 %) = \$ 192,500
 Possible Condition Component
 Value Value Multiplier Value

COOLING & VENTILATING

FAC # 110

DATE FEB.97

INSPECTOR: AJR

A. SYSTEM DESCRIPTION

	<u>N/A</u>	<u>Sat</u>	<u>Att</u>
a. System/Capacity:			
Water <u>80 TONS</u>	[]	[X]	[]
DX _____	[]	[X]	[]
b. Chillers Capacity/Year/Refrigerant/Manufacturer:			
Centrifugal <u>TONS/ 19 / R- /</u>	[X]	[]	[]
Reciprocating <u>80 TONS/ 1988/ R-22 / CARRIER</u>	[]	[]	[X]
Absorption <u>TONS/ 19 / R- /</u>	[X]	[]	[]
Screw <u>TONS/ 19 / R- /</u>	[X]	[]	[]
c. Condenser Side:			
Type/Capacity <u>[X]CW []DX 80 TONS</u>	[]	[X]	[]
d. Air Handling Units:			
Multizone <u>[]CW []DX []HUMD</u>	[X]	[]	[]
Dual Duct <u>[X]CW []DX []HUMD</u>	[]	[]	[X]
Make-up Air <u>[]CW []DX []HUMD</u>	[X]	[]	[]
Variable Volume <u>[]CW []DX []HUMD</u>	[X]	[]	[]
Constant Volume <u>[]CW []DX []HUMD</u>	[X]	[]	[]
Other _____	[X]	[]	[]
e. Additional Air Filters:			
Postfilter <u>[]Multi []DDAHU []MUAHU []VAVAHU []CAV</u>	[X]	[]	[]
Other <u>[]HEPA []BAG []CARTRIDGE []CHARCOAL</u>	[X]	[]	[]
f. Direct Expansion: Number			
Window units <u>1</u>	[]	[X]	[]
Thru-the-wall _____	[X]	[]	[]
Single zone _____	[X]	[]	[]
Other _____	[X]	[]	[]
g. Distribution Boxes:			
VAV <u>[]REHEAT</u>	[]	[X]	[]
CAV <u>[]REHEAT</u>	[X]	[]	[]
DDAHU <u>[]REHEAT</u>	[X]	[]	[]
Fan Coil <u>[]REHEAT</u>	[X]	[]	[]
h. Special Systems:			
Type _____	[X]	[]	[]
Capacity _____	[X]	[]	[]
i. Control Systems:			
<u>[X]Pneu [X] Electric []DDC [] DDC Upgrade</u>	[]	[X]	[]
j. Fans:			
Exhaust <u>5</u>	[]	[X]	[]
Recirculating <u>2</u>	[]	[X]	[]

B. COMMENTS:

THE CHILLED WATER IS SUPPLIED BY TWO 40 TONS RECIPROCATING COMPRESSORS, WITH TWO AIR COOLED CONDENSERS LOCATED ON THE ROOF. THE COOLING AND VENTILATING SYSTEM IS NEARING THE END OF ITS LIFE EXPECTANCY AND SHOULD BE REPLACED WITHIN THE NEXT FIVE YEARS.

C. COMPONENT RATING: (\$ 321,100) (57 %) = \$ 182,000
 Possible Condition Component
 Value Value Multiplier Value

ELECTRICAL/SERVICE & DISTRIBUTION

FAC # 110

DATE FEB.97

INSPECTOR: AJR

A. SYSTEM DESCRIPTION

a. Service:

Substation: []Buckeye, [X]McCracken Power Plant []AEP
Primary Voltage: [X]13,200 Volts, []4,160 Volts
Switch Gear Circuit No.: PGN5/PGS5
Transformer:

Table with 5 columns: Manufacturer, Type, KVA, Secondary Voltages, Room #. Row 1: SQUARE-D, SILICONE, 1000, 208/3 SHARED, YARD

b. Distribution System: Room Room HASKETT

- 1. Motor Control Center (MCC) Room 110M Room
2. Lighting Room 110M Room
3. Building Power Room 110M Room
4. Isolated Ground Power (IGP) Room Room

c. Conduit and Wire:

Conduit: [X]Steel, []Aluminum, []PVC, []Flexible []MIT
Conductors: [X]Copper, []Aluminum,
Wire: []PVC, []Romex, []Armored Cable(BX)

d. Emergency System:

[]Battery backup Room
[X]Emergency Panel Room
[]UPS Room

e. Emergency Generator:

Manufacturer NONE []Diesel []Gasoline []NG
Size N/A KVA, N/A Volts, Location, Room # N/A

B. COMMENTS:

THE TRANSFORMER FOR BOYD IS LOCATED SOUTH OF THE BUILDING AND SERVES BOYD, JOHNSTON LAB AND HASKETT HALL. THERE WERE NO DEFICIENCIES NOTED.

C. COMPONENT RATING: (\$ 55,500) (72 %) = \$ 39.900
Possible Condition Component
Value Value Multiplier Value

ELECTRICAL/LIGHTING & POWER

FAC # 110

DATE FEB.97

INSPECTOR: AJR

A. SYSTEM DESCRIPTION

a. Lighting (lamp type):

	<u>N/A</u>	<u>Sat</u>	<u>Att</u>
Fluor 40 watt _____	[X]	[]	[]
Fluor 32 watt _____	[]	[X]	[]
Fluor Can _____	[X]	[]	[]
Incandescent <u>AT ENTRANCES</u> _____	[]	[X]	[]
HID []Mercury []HPS []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:

THE LIGHTING SYSTEM WAS REPLACED WITH 32 WATT TUBES. THERE WERE NO PROBLEMS NOTED WITH THE LIGHTING OR POWER SYSTEM. THE BUILDING COORDINATOR DID EXPRESS A DESIRE FOR MORE WALL OUTLETS IN SOME OFFICES.

C. COMPONENT RATING: (\$ 367,9000) (72 %) = \$ 264,900
 Possible Condition Component
 Value Value Multiplier Value

SAFETY STANDARDS

FAC # 110

DATE FEB.97

INSPECTOR: AJR

A. SYSTEM DESCRIPTION

a. Exits:	<u>N/A</u>	<u>Sat</u>	<u>Att</u>
Stair Construction:			
concrete _____	[X]	[]	[]
steel <u>WITH CONCRETE TREADS</u> _____	[]	[X]	[]
wood _____	[X]	[]	[]
Number of Exit Stairs <u>1</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: 35 ft., 3 stories

c. Extinguishing Systems:

Portable _____	[]	[X]	[]
Standpipe _____	[X]	[]	[]
Hose Cabinets _____	[X]	[]	[]
Sprinklers _____	[X]	[]	[]
Gas Suppression _____	[X]	[]	[]
Other _____	[X]	[]	[]

d. Detection & Alarm Systems:

Pull Stations _____	[]	[X]	[]
Bells _____	[]	[X]	[]
Horns _____	[X]	[]	[]
Strobes <u>IN CORRIDORS</u> _____	[X]	[]	[]
Annunciator Panel _____	[X]	[]	[]
Smoke Detectors:			
Halls _____	[X]	[]	[]
Elevators _____	[X]	[]	[]
Rooms _____	[X]	[]	[]
Equip Rooms _____	[X]	[]	[]
Ducts _____	[]	[X]	[]

e. Lighting Systems:

Exit Signs []BATTERY [X]EMC _____	[]	[X]	[]
Exit Lighting []BATTERY [X]EMC _____	[]	[X]	[]
Emergency Lighting []BATTERY [X]EMC _____	[]	[X]	[]
Emergency Generator <u>NONE</u> _____	[X]	[]	[]

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

B. COMMENTS: EXIT LIGHTING IS PROVIDED BY EMERGENCY CIRCUITS.

C. COMPONENT RATING: (\$ 155,300) (72 %) = \$ 111,800
 Possible Condition Component
 Value Value Multiplier Value

BUILDING PERIMETER EVALUATION

FAC # 110

DATE FEB.97

INSPECTOR: AJR

A. SYSTEM DESCRIPTION

a. Building Access:	<u>N/A</u>	<u>Sat</u>	<u>Att</u>
Driveway _____	[X]	[]	[]
Loading Dock _____	[X]	[]	[]
Sidewalks			
Front <u>NORTH SIDE HAS HOLES IN THE BLACKTOP</u> _____	[]	[]	[X]
Side _____	[]	[X]	[]
Rear _____	[X]	[]	[]
Steps			
Front _____	[X]	[]	[]
Side _____	[X]	[]	[]
Rear _____	[X]	[]	[]
Ramp _____	[X]	[]	[]
 b. Lawn and Landscaping:			
Lawn _____	[]	[X]	[]
Shrubs _____	[]	[X]	[]
Trees _____	[]	[X]	[]
Undesirable Insect _____	[X]	[]	[]
Bedding Material _____	[]	[X]	[]
Watering System _____	[X]	[]	[]
Pedestrian Barrier []WOOD POSTS []STEEL POSTS _____	[X]	[]	[]
 c. General Site Information:			
Signage <u>ON BUILDING AND AT WOODRUFF DRIVE</u> _____	[]	[X]	[]
Address Identification <u>ON SIGN</u> _____	[]	[X]	[]
Security Lights _____	[]	[X]	[]
Street Lights _____	[]	[X]	[]
Drainage _____	[]	[X]	[]
Storm Drains _____	[]	[X]	[]

B. COMMENTS:

THE BLACKTOP SIDEWALK ON THE NORTH SIDE NEEDS TO BE RESURFACED. THE SECURITY LIGHTS AT THE NORTH AND WEST ENTRANCES NEED NEW LIGHT BULBS.

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)
HVAC.....	HEATING, VENTILATING AND AIR CONDITIONING
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
BUILDING FLOOR PLANS
C-1 BUILDING SPACE ASSIGNMENTS