

**FACILITY AUDIT REPORT**

**GOSS LABORATORY**

**#180**

**DECEMBER 30, 1997**



**GOSS LABORATORY**

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Department of Physical Facilities  
Division of Resource Management

**GOSS LABORATORY**  
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## EXECUTIVE SUMMARY FOR GOSS LABORATORY

Goss Laboratory now houses The Department of Veterinary Biosciences. Goss Laboratory was constructed in 1961 and occupied in September of 1962 by The Veterinary Pathobiology Department with a gross area of 69,078 SF. The three story building without basement was originally built for classrooms, offices and laboratories. Laboratories have been remodeled several times over the years to meet the changing requirements of the research.

Several building components are approaching the end of their expected life and will need to be repaired or replaced over the next five to ten years. Within the next five to ten years the roof, windows, caulking, elevator, plumbing, air handling units and controls will need to be replaced.

### PROPOSED MAINTENANCE PROJECTS

#### GOSS LABORATORY #180

A. Corrective Maintenance Projects:	Control No	
1. <i>Cut out mortar in the limestone and brick joints and remortar app. 8100 LF and then clean and seal the walls.</i> .....	\$ 80,000	0987
2. <i>Gas line replacement.</i> .....	\$ 21,000	2032
3. <i>Damper and coil replacement.</i> .....	\$ 21,250	2899
4. <i>Clean HVAC ducts.</i> .....	\$ 26,000	1612
5. <i>Replace two double doors and two single steel doors. ..</i>	\$ 12,400	3437
<b>Sub Total</b> .....	<b>\$ 160,650</b>	
<b>B. Building Improvement/Addition Projects:</b>		
1. <i>Install a new ADA elevator in the building.</i> .....	\$ 120,000	1952
2. <i>Replace the blacktop on the south dock drive.</i> .....	\$ 7,000	3438
3. <i>Replace the ceiling tiles.</i> .....	\$ 15,120	1591
4. <i>Repair the loading dock and handicap ramp support wall.</i> .....	\$ 12,000	0856
<b>Sub Total</b> .....	<b>\$ 154,120</b>	
<b>C. Building Component Replacements expected within the next 5-10 years:</b>		
1. <i>Replace five MZCV and MUAHU air handling units. Size the units for present and future capacities.</i> .....	\$ 228,000	3439
2. <i>Replace the incandescent lights in halls and stairwells.</i> ..	\$ 27,000	1593
3. <i>Replace the steam and hot water piping.</i> .....	\$ 150,000	3440
4. <i>Replace the steel sanitary piping with cast iron pipe.</i> .....	\$ 75,000	3441
<b>Sub Total</b> .....	<b>\$ 480,000</b>	
<b>Total Cost for all Projects</b> .....	<b>\$ 794,770</b>	

**PROJECTS IN PROGRESS OR RECENTLY COMPLETED SINCE LAST  
AUDIT**

**GOSS LABORATORY #180**

<b>Projects:</b>		<b>Control No</b>
1. <i>Renovation of rooms 101A, 110 and 112.</i>	\$ 71,760	5061-PF970313
2. <i>Replace the air handling units MZ-5 and MZ-6.</i>	\$ 101,700	5061-002546
3. <i>Renovate for retrovirus containment.</i>	\$ 942,187	315-91-070
4. <i>Replaced the DHW heater.</i>	\$ 15,825	5061-001703
5. <i>Replace the roof app 21000 SF and remove cooling tower.</i>	\$ 200,000	315-96-930
6. <i>Waterproof the mechanical room.</i>	\$ 10,500	5061-001191
7. <i>Replace two steam sterilizes.</i>	\$ 410,953	315-93-503
8. <i>Replace the windows.</i>	\$ 150,000	315-96-931

**GENERAL BUILDING INFORMATION**

**GOSS LABORATORY #180**

BUILDING ADDRESS: *1925 COFFEY ROAD*

GROSS SQ. FT.: *69,087*

NET ASSIGNABLE SQ. FT.: *60,247*

MECHANICAL/CUSTODIAL AREA SQ. FT.: *7,771*

YEAR OF CONSTRUCTION: *1961/62*

YEAR OF LAST RENOVATION: *none*

NUMBER OF STORIES/BASEMENT: *Three stories, no basement*

AIR CONDITIONING (Percentage): *80%*

CURRENT USE: *The Department of Veterinary Biosciences*

TYPE OF CONSTRUCTION: *Reinforced Concrete Structure with Masonry Skin*

ESTIMATED REPLACEMENT COST: *\$ 12,078,000 \**

COST PER GROSS SQUARE FEET: *\$174.82*

WHEELCHAIR ACCESSIBILITY: *From the southeast door of the building to the corridor and elevators of the building.*

OVERALL BUILDING CONDITION: *Satisfactory \*\**

NUMBER OF EXIT STAIRWAYS: *Three (3)*

NUMBER OF EXITS: *Five (5)*

AREA SHOP RESPONSIBILITY: *Kinnear Road Shop*

\* *Replacement Cost assigned June, 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

### GOSS LABORATORY #180

#### HEATING:

Source – *Power plant, On Site Boiler, Weil McLain as backup*

Type Heating System – *Steam and Hot Water*

Main Steam Feed (Line size, valve location) – *3” HPS in room 142A*

Building Htg. Water (line size, valve location) - *3” in Room 142M*

**VENTILATION SYSTEM:** *Multizone units and powered exhaust*

#### COOLING:

BLDG. % 80, Chiller: *Trane 80 Ton R-22 Screw compressor, 1996*

Window Units: *none*, Thru-the-wall: *none*, Direct expansion units: *three*

**HVAC CONTROL SYSTEM:** *JC-80 Pneumatic with DDC upgrade*

#### ELECTRIC:

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

*201/306              750              13,200/ 208/120                      001M*

#### PLUMBING SERVICES:

Water (size, valve location) – *6” room 110*

Gas (size, valve location) - *4” room 142A*

Domestic Hot Water (size, valve location) - *1” DHWS, 1/2” DHWR room 142M*

Compressed Air (size, location) – *1/2” in room 142M*

#### SEWERS:

Storm - *1@8, 1@6”*, Sanitary - *1@6”, 1@8”* Combined Storm/San- *none*

#### METERS:

Gas (size, location) – *4” west side of building*

Water (size, location) – *6” room 142A*

Electric (location) - *room 142A*

#### ALARM SYSTEMS:

Fire Alarm, Main Panel Room *142M*, Remote Panel Location Room

Fire Pump @      GPM,  Riser, Pump Location, Room

Sprinkler, Valve Location Room,  100%,  Partial,  Limited

Horns/Strobes,  Bells in  Halls,  Rooms

Other Alarms – *lab room pressure*

#### ELEVATORS:

Number-*Two*, Type (passenger, freight)- *Passenger and Freight*

Manufacturer – *Westinghouse*, Size- *3,000#, and 4,000#, 51x66*

**EMERGENCY GENERATOR:**

Size- 110 KW, Location- room 142A

**ASBESTOS SURVEY (1986):** *Asbestos containing materials were identified in rooms 142M, 350M and 156 in pipe insulation.*

## **GOSS LABORATORY NARRATIVE**

### **HISTORY**

Goss Laboratory now houses The Department of Veterinary Biosciences. Goss Laboratory was constructed in 1961/62 and occupied in September of 1962 by The Veterinary Pathobiology Department with a gross area of 69,087 SF. The three story building without basement was originally built for classrooms, offices and laboratories. Laboratories and rooms have been remodeled several times over the years to meet the changing requirements of the research.

The building appears to be functioning as designed, at this time, and has held up well over the 36 years since built. However, several building components are approaching the end of their expected life and will need to be replaced over the next five to ten years. These items when completed will protect and enhance the building performance and create a satisfying visual environment for students, faculty, staff and visitors.

A review of the work orders indicated that there are a normal number of emergency and maintenance calls to the building. However, more than normal maintenance problems are beginning to show up in the elevator, temperature controls, air handling units and doors and door hardware.

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 is great concern that the aging air handling systems will be able to meet the needs of present and future research requirements. Other concerns are with the general appearance of the building and surrounding grounds, the south dock and ramp.

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 for a Net Assignable Area of 60,247 SF, is as follows; Labs 24.9%, Administrative and Staff offices 11.1%, Sponsored Research 26.6%, Mechanical 12.9% Custodial/Toilet 5.2%, and Circulation 19.3%.

### **PRIMARY SYSTEMS**

The structural components consist of reinforced concrete perimeter and interior spread footers and walls with concrete encased steel columns and beams that support the concrete floors and roof. These form the basic skeletal components of this three-story building.

There are no major signs of settlement or movement in the building foundation or structural columns and supports.

A brick veneer was installed on concrete block or clay ceramic tile to form the exterior walls. Limestone and marble panels and brick trim around the perimeter complete the architectural elements that accent this building.

The exterior brick veneer is in fair condition; some cracking at the roof and beam line due to settlement and/or expansion and contraction was noted. Open mortar joints in the brick needs to be tuckpointed and sealed. The limestone panels, trim and brick need to be cleaned and sealed.

Openings in the brick veneer for windows, entrance doors, receiving doors and garage doors are accented with cut limestone or brick that form the head, sills or jambs. Other openings in the various wall elevations include supply and exhaust louvers.

Most of the single glazed windows are an aluminum double hung type. Some window openings have had glass block installed. Aluminum single glazed casement windows are in the window well to the boiler room. The windows in the main stairwell are fixed aluminum single glazed windows. The original caulking has dried and shrunk in head, sill and jamb joints of many windows and needs to be replaced. The aluminum double hung and fixed windows need to be replaced with thermally insulated window units.

The main entry doors are aluminum with glass side lites and are in good condition. Other entry doors are aluminum with automatic openers. The original steel doors remain at the receiving area, mechanical room, stair and room exits, some are in poor condition. The rusted and deteriorated doors and frames need to be replaced. The three garage doors and the top section of a double height double door are in good condition. The lower double door of the double height doors and the north double doors need to be replaced.

The roof areas are of the concrete deck type, with light weight fill, insulation board, and a Built up roof installed with hot tar and gravel. The roof is original and is scheduled to be replaced this year. The aluminum cap around the perimeter is in good condition. The gravel stop on the penthouse needs to be replaced and the old cooling tower supports removed.

## **INTERIOR SYSTEMS**

The reinforced concrete floors and columns of the building are enclosed with concrete block or glazed block to form interior walls, halls, rooms and stairwells. Halls in the building have glazed block seven feet up and plaster or concrete block to the ceiling. Other walls are steel studs and drywall partitions, plaster on concrete block or wood paneling over block. Remodeled areas in the building are separated with metal studs and drywall. The partitions and walls are all in good to fair

condition depending on the area. Some fine line cracking in concrete block or tile walls has occurred at openings in the walls as expected.

Most of the doors in this building are wood doors in metal frames and are in good condition. Steel fire doors in steel frames are used at mechanical rooms and stairwells. The metal fire doors in this building are in good condition. Some conference rooms, classrooms and offices have wood or aluminum doors and frames. Some door and/or door hardware problems are showing up in maintenance calls. Lock mechanisms and door adjustments are beginning to fail and will require continued maintenance.

The floors in this building are asbestos asphalt tiles, terrazzo, carpet in some offices, epoxy, ceramic tile or roll goods in labs and vinyl tile in remodeled areas. Some of the equipment rooms have exposed concrete floors that have been sealed with clear or epoxy covering. The floors throughout the buildings are in good condition and have been well maintained. The asbestos floors in the halls and some offices will need to be removed and replaced if the building is remodeled. Two of the stairs are metal framed with concrete fill and are in good condition. The main entry stairs are concrete with a terrazzo surface.

The original ceilings in the building consisted of a suspended steel 2x4 grid with 1x2 mineral fiber tiles, 2x2 mineral fiber tiles, plaster or exposed. The ceilings in remodeled areas of this building consist of a suspended aluminum 2x4 grid system with mineral fiber tiles. The 1x2 mineral fiber ceilings are in good to fair condition. Some ceiling tiles need to be cleaned and repainted where roof and/or duct condensation leaks have occurred.

The partitions, doors, walls, and ceilings vary in their condition rating depending on the location in the building and what remodeling has been completed. The partitions, doors, hardware, walls, floors, and ceilings have held-up relatively well after 36 years of service.

## **SERVICE SYSTEMS**

The major service systems, domestic cold and hot water, natural gas, compressed air, vacuum, sanitary waste and storm drainage all appeared to be in good condition and functioning at this time. The plumbing drainage system did not appear to have any problems. Threaded steel pipe with cast iron drainage fittings was used on the sanitary drainage system and should be replaced within the next five to ten years. The domestic cold and hot water piping appears to have copper pipe and is in good condition. The Domestic Hot Water system is connected to a new instantaneous hot water heater and has a hot water return pump and piping. The piping for the domestic hot water systems did not appear to have any problems at this time. There was adequate water pressure at the faucets and fixtures on all of the floors. The restroom fixtures were functioning properly. The steam fed biological waste reactor

that was located in room 113M has been removed. Biological waste is disposed of in containers.

The passenger and freight elevators are 36 years old and are in fair condition. There is a request to upgrade the passenger elevator. The elevators were operating, however, maintenance records indicated minor control problems with the passenger elevator.

Five 4185 MBH gas fired boilers in room 142A supplied the 6" MPS (medium pressure steam) supply lines that feed the building and hot water converters. The boilers are used as back-up for the building at this time. A 3" HPS steam line and 200/70 pressure reducing station was installed and connected to the 6" MPS line. Several LPS steam to hot water heat exchangers are located throughout the building. Building heating water is pumped through the building from pumps located in mechanical rooms 124M and 450M. The Hot Water Heating system supplies wall convectors located on the outside walls at windows, fan coil units at entrances, unit heaters preheat coils and heating coils in the air handling units. The heating system appears to be operating properly.

The 1996 Trane 80 Ton R-22 chiller, pumps and coil supplies chilled water to the Air Handling Unit located at the southwest corner of the building. The Trane chilled water generator has two screw compressors, a water evaporator and an air cooled condenser also located on the southwest corner. The Trane chiller has DDC controls. The air handling unit supplies conditioned air to the southwest corner of the basement labs, rooms 108 through 125.

An absorption chiller supplied chilled water to the original building. The absorption chiller was removed and six inch chilled water lines were installed from the chilled water header in the Veterinary Hospital mechanical room to room 142A.

Six Multizone (MZ) air handling units with cooling and heating coils on hot and cold decks supply conditioned air throughout the building. In 1976 the units were modified with night setback as part of the energy conservation program. Heat reclaim coils were installed on MZ-5 to reclaim heat from the lab exhaust air. The six original MZCV air handling units are past the end of their useful lives and will require replacement in the next five years. MZ-5 and MZ-6 are currently being replaced with new air handling units and the heat reclaim coils will be reinstalled on MZ-5. Controls for the heating and cooling system are pneumatic and electric with a DDC upgrade.

Areas requiring special controls have single zone split system DX air conditioning units. Three DX air conditioning units have been installed to cool offices and labs.

Exhaust fans located on the roof and in room 350M remove air from restrooms, common areas, labs and hoods.

## **ELECTRIC**

The Buckeye substation circuits number 201/306 feed the 750 KVA 208/120 volt transformer located on the north side of the building that supplies the electrical service to Goss Laboratory. Switchgear located in room 142A feeds the lighting and power distribution panels throughout the building. A MCC panel in room 142A, 106A and 350M distributes power to mechanical equipment. Panel sizes vary throughout the building depending on the load. At about 10.8 watts per square foot the building appears to have an adequate power supply in most circuits. Some areas that have been remodeled with extensive electrical and electronic equipment are overloading some electrical circuits.

The building has 32 watt fluorescent tube and recessed light fixtures throughout most of the building. Several rooms on third floor need to have the 32 watt fluorescent tube lighting installed. Other areas have had the newer 32 watt electronic fixtures installed during room renovation. A program to replace the balance of the incandescent fixtures with fluorescent fixtures would save energy. There are an adequate number of convenience and lab outlets throughout the building.

## **SAFETY STANDARDS**

Goss Laboratory is equipped with a manual fire alarm system consisting of pull stations at exits that provide local fire annunciation from the panel to all floors.

The emergency generator circuit provides exit and emergency lighting. There are lighted exit signs at each exit. Emergency lights need to be installed in the corridors and in the stairwells.

Automatic door openers are installed at the southeast entrances of the building from the ramp that gives access to the second floor.

## **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 were identified in rooms 142M, 350M and 156 in pipe insulation. The asbestos fire proofing in the boiler room has been removed and replaced with a mineral fiber type fireproofing. All asbestos piping in chases and walls and asbestos containing materials including floor tiles and mastic within the limits of the building need to be removed during any renovation or repairs.

## **PERIMETER**

About 95 percent of the sidewalks around the building are in good condition. Some sidewalks and curbs have small sections of cracked, settled or raised concrete. Sections of the sidewalks and curbs on the west side of the building that have settled areas, cracked sections or tripping hazards need to be relevelled.

The lawn area on the east and west side has bare spots in the grass. All of the shrubbery and trees need to be trimmed and mulched. The storm drains in stair and window wells around the building need to be cleaned.

The parking areas to the south and west of the building are in fair condition. Areas with potholes or spalling asphalt need to be repaved or patched. The cracks in the parking lots need to be sealed.

Entrances to the building are well lighted and area, flood and street lighting appear to be distributed properly. It is recommended that the incandescent wall lighting be replaced with low pressure sodium wall packs. The building signs are in good condition.

**Minor Maintenance Projects (Less Than \$5000) EXTERIOR  
GOSS LABORATORY #180 DECEMBER 30, 1997**

1. Repair the cracked, missing or settled curb sections and patch the blacktop on the south side of the building.  
Workorder #01-5063-027116-51
2. Trim the trees and shrubs around the building, remove tree next to the air handling unit on the southwest side and remove the vines on the brick on the north wall.  
Workorder #01-5063-027117-55
3. Repair the roof over the main entrance canopy and install a gutter.  
Workorder #01-5064-296428-73
4. Clean the area drain in the north stairwell and areawell to the sump.  
Workorder #01-5063-027118-51
5. Install or repair weather-stripping at all entrance doors.  
Workorder #01-5061-002128-20
6. Backfill and compact the low areas on the west side of the building.  
Workorder #01-5063-027120-55
7. Repair and tuckpoint the brick on the ramp at the southeast corner of the building and repair the spalling concrete on the dock.  
Workorder #01-5061-002128-20
8. The brick under the bench on the north side at the entrance needs to be releveled.  
Workorder #01-5063-027121-51
9. Pressure clean the limestone at the main entrance and seal.  
Workorder #01-5061-002128-20

**Maintenance Projects (Less Than \$5000) INTERIOR  
GOSS LABORATORY #180 DECEMBER 30, 1997**

- 1 Replace insulation removed from piping for repairs in the equipment rooms.  
Workorder #01-5064-296430-69
  - 2 Clean the underground sanitary and storm piping, all laterals should also be cleaned.  
Workorder #01-5061-002128-20
  - 3 Seal the leaking access doors on the air handling units in rooms 142M.  
Workorder #01-5064-296431-69
  - 4 Epoxy seal the floor in room 350M.  
Workorder #01-5061-002546-20
  - 5 Repair the door to room 350M.  
Workorder #01-5064-296432-72
  - 6 Repair the leaking steam valve in room 106M.  
Workorder #01-5064-296434-69
- 
- 1 Install backflow preventors on the domestic water feeds to the building.  
Control #3442

## BUILDING EVALUATION SUMMARY

### I. BUILDING INFORMATION

Fac # *180*, Facility Name: *GOSS LABORATORY*, Date: *12/30/97* Inspector: *JAO*,  
 Year Constructed: *1961*, Gross Sq. Ft: *69,411*  
 Net Sq. Ft: *60,247*, Replacement Cost: \$ *12,078,000* \*

### II. COMPONENT RATING

COMPONENT	BUILDING COMPONENT PERCENTAGE OF TOTAL COST **	BUILDING COMPONENT REPLACEMENT COST	BUILDING COMPONENT CONDITION VALUE MULTIPLIER	BUILDING COMPONENT CURRENT VALUE
Foundation	4.12	497,288	88	439,312
Columns and Beams	11.12	1,343,551	88	1,186,913
Exterior Walls	6.59	795,661	69	548,176
Ext. Windows & Doors	3.22	389,106	66	257,267
Roofing & Flashing	2.12	256,496	42	108,306
Partitions & Doors	8.48	1,024,240	79	808,086
Wall Finishes	4.28	516,482	57	292,688
Floor Finishes	4.78	577,552	77	442,830
Ceilings & Finishes	5.68	685,734	70	480,055
Conveying	1.33	160,528	60	96,326
Plumbing	17.48	2,111,294	67	1,407,653
Heating	6.93	837,538	63	530,488
Cooling and Vent.	7.96	961,424	52	502,110
Elect. Serv. & Dist.	1.37	165,763	77	127,095
Lighting and Power	9.23	1,114,973	80	892,056
Safety Standards	5.30	640,368	59	377,130
<b>TOTALS</b>	<b>100.00</b>	<b>12,078,000</b>	<b>70</b>	<b>8,496,491</b>

### III. BUILDING RATING SUMMARY

Overall Building Rating = **70%**

\* 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 #: 180

DATE: 12/30/97

INSPECTOR: JAO

<b>COMPONENT RATING: (\$ <u>497,288</u>) x ( <u>88%</u>) = \$ <u>439,312</u></b> <div style="display: flex; justify-content: space-around; font-size: small;"> <span>Possible Value</span> <span>Condition Value Multiplier</span> <span>Component Value</span> </div>
---

**SYSTEM DESCRIPTION**

**Sat Att**

- a. Footings:**
- [ X ] [ ] Interior Footings/Piers ..... *spread footers*
- [ ] [ ] Interior Footings/Bearing Walls .....
- [ X ] [ ] Perimeter Footings..... *spread footers*
- [ ] [ ] Grade Beams .....
- [ ] [ ] Piles .....
- [ ] [ ] Caissons.....
- b. Foundation Wall Materials:**
- [ X ] [ ] Concrete Cast-in-place .....
- [ ] [ ] Concrete Block .....
- [ ] [ ] Stone .....
- [ ] [ ] Brick .....
- [ ] [ ] Other.....
- c. Waterproofing and Underdrain:**
- [ X ] [ ] Coating .....
- [ ] [ ] Membrane.....
- [ ] [ ] Board .....
- [ ] [ ] Drain Tile.....
- d. Slab on Grade:**
- [ ] [ ] Plain.....
- [ ] [ ] Reinforced .....
- e. Ground/Basement Floor Slab:**
- [ ] [ ] Plain.....
- [ X ] [ ] Reinforced .....
- f. Special Substructures:**
- [ ] [ ] .....

**COMMENTS:**

*none*

## COLUMNS AND BEAMS

FAC #: 180

DATE: 12/30/97

INSPECTOR: JAO

**COMPONENT RATING: (\$ 1,343,551) x ( 88%) = \$ 1,186,913**

Possible	Condition	Component
Value	Value Multiplier	Value

**SYSTEM DESCRIPTION**

Sat    Att

**a. Columns and Beams:**

- Reinforced Concrete .....
- Precast Concrete.....
- Steel .....*concrete encased columns and beams*
- Fireproofing .....*on boiler room ceiling*
- Wood.....
- Other .....*steel penthouse frame*

**b. Floor Joists:**

- Concrete .....*reinforced concrete over steel joists*
- Steel Trusses .....
- Wood .....
- Other .....

**d. Floor Decks:**

- Concrete Slab .....*plain reinforced concrete*
- Precast Slab.....
- Metal Deck w/concrete fill.....
- Wood .....

**e. Roof Joists:**

- Concrete .....
- Steel .....*encased in concrete*
- Wood .....

**f. Flat Roof System:**

- Slope .....*0.25" per foot*
- Concrete Deck.....*with lightweight fill*
- Precast Slab.....
- Metal Deck w/concrete fill.....
- Metal Deck w/insulation .....*penthouse*
- Wood Deck .....
- Insulation.....*1.5" high density*
- Other .....

**COMMENTS:**

*none*

## EXTERIOR WALLS

FAC #: 180

DATE: 12/30/97

INSPECTOR: JAO

<b>COMPONENT RATING: (\$ <u>795,661</u>) x ( <u>69%</u>) = \$ <u>548,176</u></b>						
<table style="margin: auto; border: none;"> <tr> <td style="text-align: center; padding: 0 10px;">Possible</td> <td style="text-align: center; padding: 0 10px;">Condition</td> <td style="text-align: center; padding: 0 10px;">Component</td> </tr> <tr> <td style="text-align: center; padding: 0 10px;">Value</td> <td style="text-align: center; padding: 0 10px;">Value Multiplier</td> <td style="text-align: center; padding: 0 10px;">Value</td> </tr> </table>	Possible	Condition	Component	Value	Value Multiplier	Value
Possible	Condition	Component				
Value	Value Multiplier	Value				

**SYSTEM DESCRIPTION**

**Sat Att**

**a. Walls:**

- [ ] Concrete [X]CIP [ ]PRECAST..... *to second floor*
- [ ] Concrete Block..... *on mechanical shaft in rear*
- [ ] [X] Brick [ ]MASONRY [X]VENEER .....
- [ ] [X] Veneer..... *limestone and granite panels*
- [ ] [ ] Window/Curtainwall .....
- [ ] Metal Siding..... *penthouse*
- [ ] [ ] Other.....

**b. Wall Lintels Over Openings:**

- [ ] Concrete [X]PRECAST [ ]CIP..... *entrance*
- [ ] [ ] Limestone .....
- [ ] [ ] Brick Masonry .....
- [ ] Steel..... *over windows and openings*
- [ ] [ ] Wood .....
- [ ] [ ] Other.....

**c. Wall Trim:**

- [ ] Limestone..... *panels and window sills*
- [ ] Brick..... *recessed on every fifth course*
- [ ] [ ] Marble.....
- [ ] [ ] Wood .....
- [ ] Other..... *granite panels at base below limestone*

**d. Finishes:**

- [ ] Plain.....
- [ ] [ ] Stucco .....
- [ ] [ ] Paint.....
- [ ] [ ] Parging.....
- [ ] [ ] Exposed Aggregate .....
- [ ] [ ] Drivit .....
- [ ] Other..... *colored architectural concrete block*

**e. Exterior Wall Backing System:**

- [ ] Concrete..... *to second floor*
- [ ] Concrete Block..... *second and third floor*
- [ ] [ ] Brick Masonry .....
- [ ] Ceramic Tiles..... *on block in exterior labs*
- [ ] [ ] Metal Studs.....

[ ] [ ] Wood Studs .....

**COMMENTS:**

*Open joints in the limestone need to be caulked to prevent water penetration and all of the limestone needs to be cleaned and sealed.*

*The brick veneer needs to be tuckpointed, cleaned and sealed.*

## EXTERIOR WINDOWS AND DOORS

FAC #: 180

DATE: 12/30/97

INSPECTOR: JAO

<b>COMPONENT RATING: (\$ <u>389,106</u>) x (66%) = \$ <u>257,267</u></b> <div style="display: flex; justify-content: space-around; font-size: small;"> <span>Possible Value</span> <span>Condition Value Multiplier</span> <span>Component Value</span> </div>
---

### SYSTEM DESCRIPTION

**Sat    Att**

**a. Window materials:**

- [ ]    [ ]    Wood .....
- [ ]    [ ]    Steel .....
- [ ]    [X]    Alum on fixed, double hung and casement in boiler room
- [ ]    [ ]    PVC .....
- [ ]    [X]    Other ..... *glass block*

**b. Windows type & number:**

- [ ]    [X]    Double Hung ..... *31*
- [ ]    [ ]    Awning .....
- [ ]    [X]    Casement ..... *8*
- [ ]    [ ]    Pivoted .....
- [ ]    [ ]    Sliding .....
- [X]    [ ]    Fixed ..... *15 in front entrance stairs*
- [X]    [ ]    Other ..... *9 glass block fixed units on side and rear*

**c. Window glazing:**

- [ ]    [X]    Single pane .....
- [ ]    [ ]    Double pane .....

**d. Window Wall and/or Store Front:**

- [ ]    [ ]    Store Front .....
- [ ]    [ ]    Vestibule .....
- [ ]    [ ]    Single pane .....
- [ ]    [ ]    Double pane .....
- [ ]    [ ]    Other .....

**e. Door Materials:**

- [X]    [ ]    Wood .....
- [ ]    [X]    Steel ..... *garage doors and exit double doors*
- [ ]    [X]    Alum ..... *entrance on east and south side*

**f. Doors type & number:**

- [X]    [ ]    Vestibule Double ..... *one at main entrance*
- [X]    [ ]    Double ..... *one steel dock door*
- [ ]    [X]    Exit ..... *two double and one steel*
- [X]    [ ]    Stair Exit ..... *two aluminum and one steel*
- [X]    [ ]    Garage ..... *three in rear*
- [ ]    [X]    Special ..... *16 foot high steel double door for crane rail*

**g. Hardware:**

- Automatic opener ..... *at ramp door*
- Push Bar Openers wt Closures .....
- Key Cards .....

**COMMENTS:**

*The single glazed windows are to be replaced with more energy efficient double glazed windows.*

*Two sets of steel double doors need to be replaced.*

*Weather-stripping needs to be installed on the main entrance doors.*

# ROOFING

FAC #: 180

DATE: 12/30/97

INSPECTOR: JAO

<b>COMPONENT RATING: (\$ <u>256,496</u>) x ( <u>42%</u>) = \$ <u>108,306</u></b>						
<table style="margin: auto; border: none;"> <tr> <td style="padding: 0 10px;">Possible</td> <td style="padding: 0 10px;">Condition</td> <td style="padding: 0 10px;">Component</td> </tr> <tr> <td style="padding: 0 10px;">Value</td> <td style="padding: 0 10px;">Value Multiplier</td> <td style="padding: 0 10px;">Value</td> </tr> </table>	Possible	Condition	Component	Value	Value Multiplier	Value
Possible	Condition	Component				
Value	Value Multiplier	Value				

**SYSTEM DESCRIPTION**

**Sat Att**

- a. Roof Covering:**
- [ ] [ ] Built-up [ ]asphalt [ ]Coal Tar [ ]Modified .....
- [ ] [X] Built-up w/gravel [ ]asphalt [X]Coal Tar .....25,030 SF
- [ ] [ ] Asphalt Roll.....
- [ ] [ ] Asphalt Shingle .....
- [ ] [ ] Copper .....
- [ ] [ ] EPDM.....80 SF
- [ ] [ ] Other.....
- b. Flashing:**
- [X] [ ] Materials: [ ]Cu [ ]Galv [X]Al [ ]EPDM [ ]SS [ ]PVC....
- [X] [ ] Base & Counter .....1402 LF of BUR
- [X] [ ] Cap.....882 LF
- [X] [ ] Reglet.....in walls 383 LF
- [ ] [ ] Valley & Ridge.....
- c. Gravel Stop & Edge Strips:**
- [X] [ ] Type [ ]SS [ ]Galv [X]Al [ ]Cu [ ]PVC .....177 LF
- d. Drainage:**
- [X] [ ] Gutters w/ Exterior Downspouts ..... 45 LF on penthouse
- [ ] [ ] Scuppers w/o Exterior Downspouts .....
- [ ] [X] Drains w/ Interior Storm Drains ..... 9 drains
- [ ] [ ] Emergency Overflow.....
- e. Parapets:**
- [ ] [ ] Concrete.....
- [X] [ ] Brick ..... two foot high
- [ ] [ ] Precast .....
- [ ] [ ] Other.....
- f. Parapet Caps:**
- [X] [ ] Metal [ ]SS [ ]Galv [X]Al [ ]Cu [ ]PVC .....882 LF
- [ ] [ ] Tile .....
- [ ] [ ] Limestone .....
- [ ] [ ] Precast .....
- [ ] [ ] Other .....

**h. Roof accessories:**

- Lightning Protection .....
- Roof Curbs .....
- Equipment Frames.....
- Pitch Pockets .....
- Other .....

**COMMENTS:**

*The roofs are to be replaced and the old cooling tower removed.*

*New metal gravel stop and counterflashing for the penthouse will be installed.*

*The roof on canopy over the main entrance needs to be repaired and a gutter installed.*

## PARTITIONS AND DOORS

FAC #: 180

DATE: 12/30/97

INSPECTOR: JAO

<b>COMPONENT RATING: (\$ 1,024,240) x (79%) = \$ 808,086</b>						
<table style="margin: auto; border: none;"> <tr> <td style="padding: 0 10px;">Possible</td> <td style="padding: 0 10px;">Condition</td> <td style="padding: 0 10px;">Component</td> </tr> <tr> <td style="padding: 0 10px;">Value</td> <td style="padding: 0 10px;">Value Multiplier</td> <td style="padding: 0 10px;">Value</td> </tr> </table>	Possible	Condition	Component	Value	Value Multiplier	Value
Possible	Condition	Component				
Value	Value Multiplier	Value				

### SYSTEM DESCRIPTION

**Sat Att**

**a. Partition Framing:**

- [ ] Concrete Block .....
- [ ] Clay Tile Block.....
- [ ] Glazed Block .....
- [ ] Masonry.....
- [ ] Wood Stud.....
- [ ] Metal Stud .....
- [ ] Other..... *concrete*

**b. Special partitions and Walls:**

- [ ] Demountable..... *steel walls and doors*
- [ ] Toilet .....
- [ ] Screen Walls.....
- [ ] Glass .....
- [ ] Gate.....
- [ ] Other.....

**c. Wall Material:**

- [ ] Plaster.....*above paneling*
- [ ] Drywall..... *in newer areas*
- [ ] Glass .....
- [ ] Wood Paneling..... *in auditorium*
- [ ] Composite Paneling.....
- [ ] Steel Panels.....
- [ ] Tile/Glazed .....
- [ ] Other.....

**d. Interior Doors & Frames:**

- [ ] Met Door/Met Frame.....
- [ ] Wood Door/Wood Frame.....
- [ ] Wood Door/Metal Frame .....
- [ ] Glazing .....
- [ ] Roll-up.....
- [ ] Sliding..... *wood accordion*
- [ ] Other.....*fire doors*

**e. Hardware:**

- [ ] Door Knobs Levers .....
- [ ] Door Closures.....

- Kick/Push Plates.....
- Security & Detection .....
- Automatic Openers.....
- Fire Door Magnets.....
- Other.....

**COMMENTS:**

*Some door and/or door hardware needs to be repaired as needed, including the door to room 351M.*

## WALL FINISHES

FAC #: 180

DATE: 12/30/97

INSPECTOR: JAO

<b>COMPONENT RATING: (\$ <u>516,482</u>) x ( <u>57%</u>) = \$ <u>292,688</u></b>						
<table style="margin: auto; border: none;"> <tr> <td style="padding: 0 10px;">Possible</td> <td style="padding: 0 10px;">Condition</td> <td style="padding: 0 10px;">Component</td> </tr> <tr> <td style="padding: 0 10px;">Value</td> <td style="padding: 0 10px;">Value Multiplier</td> <td style="padding: 0 10px;">Value</td> </tr> </table>	Possible	Condition	Component	Value	Value Multiplier	Value
Possible	Condition	Component				
Value	Value Multiplier	Value				

**SYSTEM DESCRIPTION**

**Sat    Att**

**a. Wall Finishes:**

- |       |       |   |
|-------|-------|---|
| [ X ] | [   ] | Paint .....   |
| [   ] | [   ] | Vinyl Wall Coverings .....  |
| [ X ] | [   ] | Prefinished Paneling ..... <i>in the lobby and the auditorium</i> |
| [   ] | [   ] | Cork .....  |
| [   ] | [   ] | Wallpaper.....  |
| [ X ] | [   ] | Ceramic Tile ..... <i>in halls and labs</i>                       |
| [   ] | [   ] | Marble.....   |
| [   ] | [   ] | Stone .....   |
| [ X ] | [   ] | Trim & Wainscot .....   |
| [   ] | [   ] | Decoration.....   |
| [   ] | [   ] | Glass.....  |
| [   ] | [ X ] | Other ..... <i>concrete</i>                                       |

**COMMENTS:**

*Wall finishes are generally in good condition.*

*The concrete wall in the room 116 and 118 needs to be refinished along the west wall where leaks have stained the wall.*

## FLOOR FINISHES

FAC #: 180

DATE: 12/30/97

INSPECTOR: JAO

<b>COMPONENT RATING: (\$ <u>577,552</u>) ( <u>77%</u>) = \$ <u>442,830</u></b>						
<table style="margin: auto; border: none;"> <tr> <td style="padding: 0 10px;">Possible</td> <td style="padding: 0 10px;">Condition</td> <td style="padding: 0 10px;">Component</td> </tr> <tr> <td style="padding: 0 10px;">Value</td> <td style="padding: 0 10px;">Value Multiplier</td> <td style="padding: 0 10px;">Value</td> </tr> </table>	Possible	Condition	Component	Value	Value Multiplier	Value
Possible	Condition	Component				
Value	Value Multiplier	Value				

**SYSTEM DESCRIPTION**

Sat	Att	
		<b>a. Carpet:</b>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Rolled ..... <i>in some offices</i>
<input type="checkbox"/>	<input type="checkbox"/>	Tile.....
		<b>b. Concrete Topping:</b>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Clear Sealant..... <i>on equipment room floors</i>
<input type="checkbox"/>	<input type="checkbox"/>	Antislip .....
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Epoxy..... <i>in some labs and some equipment rooms</i>
		<b>c. Resilient:</b>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Vinyl Composition Tile..... <i>in newer areas</i>
<input type="checkbox"/>	<input type="checkbox"/>	Vinyl/Plastic Tile.....
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Asphalt Asbestos Tile.....
<input type="checkbox"/>	<input type="checkbox"/>	Linoleum Tile .....
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Vinyl Roll..... <i>in some labs</i>
<input type="checkbox"/>	<input type="checkbox"/>	Rubber .....
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<b>d. Ceramic Tile</b> <input checked="" type="checkbox"/> Mosaic <input checked="" type="checkbox"/> Quarry <input type="checkbox"/> Pavers .....
<input type="checkbox"/>	<input type="checkbox"/>	<b>f. Masonry</b> <input type="checkbox"/> Marble <input type="checkbox"/> Granite <input type="checkbox"/> Slate <input type="checkbox"/> Brick.....
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<b>g. Terrazzo</b> <input type="checkbox"/> Marble <input checked="" type="checkbox"/> Granite <i>in lobby and front stairs</i>
<input type="checkbox"/>	<input type="checkbox"/>	<b>h. Wood</b> <input type="checkbox"/> Tiles <input type="checkbox"/> T&G Hardwood <input type="checkbox"/> Planking .....
<input type="checkbox"/>	<input type="checkbox"/>	<b>i. Pedestal</b> <input type="checkbox"/> Vinyl Tiles <input type="checkbox"/> Grills <input type="checkbox"/> Supply Air <input type="checkbox"/> Vent....
		<b>j. Base Molding:</b>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Vinyl.....
<input type="checkbox"/>	<input type="checkbox"/>	Wood .....
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Terrazzo..... <i>and marble</i>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Ceramic Tile .....
<input type="checkbox"/>	<input type="checkbox"/>	Masonry .....

**COMMENTS:**

*The asphalt asbestos tiles need to be removed when the areas are remodeled.*

*Floor finishes are in good condition.*

## CEILINGS AND FINISHES

FAC #: 180

DATE: 12/30/97

INSPECTOR: JAO

<b>COMPONENT RATING:</b> $(\$ \underline{685,734}) \times (70\%) = \$ \underline{480,055}$						
<table style="margin: auto; border: none;"> <tr> <td style="padding: 0 10px;">Possible</td> <td style="padding: 0 10px;">Condition</td> <td style="padding: 0 10px;">Component</td> </tr> <tr> <td style="padding: 0 10px;">Value</td> <td style="padding: 0 10px;">Value Multiplier</td> <td style="padding: 0 10px;">Value</td> </tr> </table>	Possible	Condition	Component	Value	Value Multiplier	Value
Possible	Condition	Component				
Value	Value Multiplier	Value				

**SYSTEM DESCRIPTION**

**Sat Att**

**a. System Type:**

- [ ] Exposed .....*in equipment rooms and some labs*
- [ ] Applied to Structure .....
- [ ] Suspended Stud .....
- [ ] Suspended Steel Grid .....
- [ ] Suspended Aluminum Grid .....
- [ ] Suspended Sealed Grid.....
- [ ] Suspended Concealed Spline.....

**b. Materials:**

- [ ] Drywall .....
- [ ] Plaster ..... *in restrooms and stairwells*
- [ ] Mineral Fiber Board . *in remodeled areas and some halls*
- [X] Fiberglas Board..... *1x2 ceiling tiles*
- [ ] Cementitious Fiber Board.....
- [ ] Metal Pan Tile .....
- [ ] Other .....

**c. Finishes:**

- [ ] Paint.....
- [ ] Prefinished [X]Paint [ ]vinyl [ ]Fabric
- [ ] Other .....

**d. Openings & Inserts:**

- [ ] Air Distribution .....
- [ ] Lighting Fixtures .....
- [ ] Access Panels .....
- [ ] Sprinklers.....
- [ ] Smoke Detectors.....
- [ ] Speakers.....
- [ ] Skylights .....
- [ ] Other .....

**COMMENTS:**

*Many areas have the original 1x2 ceiling tiles. Several tiles need to be cleaned and reinstalled.*

# CONVEYING

FAC #: 180

DATE: 12/30/97

INSPECTOR: JAO

<b>COMPONENT RATING: (\$ <u>160,528</u>) x ( <u>60%</u>) = \$ <u>96,326</u></b> <div style="display: flex; justify-content: space-around; font-size: small;"> <span>Possible Value</span> <span>Condition Value Multiplier</span> <span>Component Value</span> </div>
--

**SYSTEM DESCRIPTION**

**Sat Att**

**a. Elevators:**

- Number..... *One Westinghouse*
- Type.....*Passenger*
- Speed.....*100 FPM*
- Capacity (lbs.)..... *3,000 Lbs.*
- Dimensions..... *73"x55"*
- Door Operation Side Center:.....
- Accessible Codes.....
- Fire Codes.....

**b. Elevators:**

- Number..... *One Westinghouse*
- Type.....*Freight*
- Speed.....*75 FPM*
- Capacity (lbs.)..... *4,000 Lbs.*
- Dimensions..... *68"x92"*
- Door Operation Side Center:.....
- Accessible Codes.....
- Fire Codes.....

**c. Lifts and Hoists:**

- Number..... *three*
- Type..... *750# to 2000# lift tables and hoist*

**d. Moving Stairs and Walks:**

- Number.....
- Type.....

**e. Conveyors:**

- Number.....*one trolley and track*
- Type.....

**COMMENTS:**

*The passenger elevator is 37 years old and needs to be replaced with an ADA accessible elevator within the next five to ten years.*

## MECHANICAL/PLUMBING

FAC #: 180

DATE: 12/30/97

INSPECTOR: JAO

**COMPONENT RATING: (\$ 2,111,294) x ( 67%) = \$ 1,407,653**

Possible Value	Condition Value Multiplier	Component Value
-------------------	-------------------------------	--------------------

### SYSTEM DESCRIPTION

Sat    Att

**a. Services Available:**

- |                                     |                                     |                      |                          |
|-------------------------------------|-------------------------------------|----------------------|--------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | Cold Water .....     | 6"                       |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | Backflow Valve ..... |                          |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | Hot Water .....      | 2"                       |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | Natural Gas .....    | 4"                       |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | Compressed Air ..... | <i>1/2" in room 142A</i> |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | Other .....          | <i>CO2</i>               |

**b. Piping & Fittings:**

- |                                     |                                     |                     |  |
|-------------------------------------|-------------------------------------|---------------------|--|
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | Cast Iron .....     |  |
| <input type="checkbox"/>            | <input type="checkbox"/>            | Ductile Iron .....  |  |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | Copper Pipe .....   |  |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | Copper Tubing ..... |  |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | Steel .....         | <i>and cast iron drainage fittings</i>       |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>            | Galv. Steel .....   | <i>and cast iron waste and vent fittings</i> |
| <input type="checkbox"/>            | <input type="checkbox"/>            | Other .....         |  |

**c. Water Heaters:**

- |                                     |                          |                            |         |
|-------------------------------------|--------------------------|----------------------------|---------|
| <input type="checkbox"/>            | <input type="checkbox"/> | Gas .....                  |         |
| <input type="checkbox"/>            | <input type="checkbox"/> | Steam Converter/Tank ..... |         |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Steam Instantaneous .....  | 2" DHWS |
| <input type="checkbox"/>            | <input type="checkbox"/> | Central Hot Water .....    |         |

**d. Drainage:**

- |                                     |                          |                         |                                   |
|-------------------------------------|--------------------------|-------------------------|-----------------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Storm Drains .....      | <i>8" to south and west</i>       |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Sanitary Drainage ..... | <i>6" to south and 8" to east</i> |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Floor Drains .....      |                                   |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Sump Pumps .....        | <i>in 142A</i>                    |

**e. Fixtures: Number**

- |                                     |                          |                              |    |
|-------------------------------------|--------------------------|------------------------------|----|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Water Closets .....          | 15 |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Urinals .....                | 7  |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Lavatory Sinks .....         | 14 |
| <input type="checkbox"/>            | <input type="checkbox"/> | Kitchen Sinks .....          |    |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Service Sinks .....          | 3  |
| <input type="checkbox"/>            | <input type="checkbox"/> | Showers .....                | 4  |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Electric Water Coolers ..... | 4  |

- f. Sprinkler Systems:**
- Wet ..... *limited coverage*
- Dry.....
- Carbon Dioxide .....
- Halon .....
- g. Standpipe Systems:**
- Wet Dry .....
- Fire Hose Valves 2.5" 1.25" .....
- Hose Cabinets, Hoses Installed Removed .....

**COMMENTS:**

*A back flow valve needs to be installed in the domestic water line.*

*The steel waste drainage piping needs to be replaced in the next five to ten years.*

*All lab and bio waste is disposed of in containers and shipped to disposal sites.*

*All underground sanitary and storm piping needs to be checked and cleaned in necessary.*

## MECHANICAL/HEATING

FAC #: 180

DATE: 12/30/97

INSPECTOR: JAO

<b>COMPONENT RATING: (\$ <u>837,538</u>) x ( <u>63%</u>) = \$ <u>530,488</u></b>						
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Possible	Condition	Component				
Value	Value Multiplier	Value				

### SYSTEM DESCRIPTION

**Sat Att**

**a. Heat Source:**

- [ ] Central Plant Steam ..... 3" HPS
- [ ] Central Plant Hot Water .....

**b. System Type:**

- [ ] Steam ..... *Cleaver Brooks Boilers 5 & 1480 MBH backup*
- [ ] Hot Water .....
- [ ] Warm Air .....

**c. Air Handling Units:**

- [  ] Multizone [  ]Preheat [  ]Heating [  ]Reheat ..... *5 units*
- [ ] Dual Duct [ ]Preheat [ ]Heating [ ]Reheat.....
- [  ] Make-up Air [  ]Preheat [  ]Heating [  ]Reheat.....
- [ ] Variable Volume Air [ ]Preheat [ ]Heating [ ]Reheat .....
- [ ] Constant Volume Air [  ]Preheat [  ]Heating [  ]Reheat .....
- [  ] Other ..... *heat reclaim unit inoperative*

**d. Air Filters:**

- [ ] Prefilter[  ]Multi [ ]DDAHU [  ]MUAHU [ ]VAVAHU [  ]CAV
- [ ] Bagfilter[  ]Multi [ ]DDAHU [  ]MUAHU [ ]VAVAHU [  ]CAV
- [ ] Other .....

**e. Space Equipment:**

- [ ] Radiators.....
- [ ] Convectors.....
- [ ] Unit Heaters.....
- [ ] Reheat Coils ..... *hot water and electric*
- [ ] DD Boxes .....
- [ ] CAV Boxes.....
- [ ] 2-Pipe Fan Coil..... *at entrances*
- [ ] Other .....

**f. Control Type:**

- [ ] [  ]Pneu [  ]Electric [ ]DDC [  ]DDC Upgrade .....

**COMMENTS:** *The air handling units are 35 years old and will need to be replaced within the next five to ten years. MZ5&6 are to be replaced this fall. The heat reclaim unit on MZ-5 needs to be put back in service. Pipe insulation needs to be reinstalled on repaired piping. Repair the leaking steam valve in room 106M.*

## COOLING/VENTILATING

FAC #: 180

DATE: 12/30/97

INSPECTOR: JAO

<b>COMPONENT RATING: (\$ <u>961,424</u>) x ( <u>52%</u>) = \$ <u>502,110</u></b> <div style="display: flex; justify-content: space-around; font-size: small;"> <span>Possible Value</span> <span>Condition Value Multiplier</span> <span>Component Value</span> </div>
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**SYSTEM DESCRIPTION**

**Sat Att**

- a. System/Capacity:**
- Water ... *80 Tons and 260 Tons from Veterinary Hospital*
- DX .....
- b. Chillers Capacity/Year/Refrigerant/Manufacturer:**
- Centrifugal .....
- Reciprocating.....
- Absorption .....
- Screw ..... *80 Ton/1996/R-22/Trane*
- c. Condenser Side:**
- Type/Capacity [ ]CW [X]DX ..... *80 ton*
- d. Air Handling Units:**
- Multizone [X]CW [ ]DX [X]HUMD .....
- Dual Duct [ ]CW [ ]DX [ ]HUMD.....
- Make-up Air [X]CW [ ]DX [X]HUMD.....
- Variable Volume [ ]CW [ ]DX [ ]HUMD.....
- Constant Volume [ ]CW [X]DX [X]HUMD..... *1 DX*
- Other..... *2 DX split systems*
- e. Additional Air Filters:**
- Postfilter [ ]Multi [ ]DDAHU [ ]MUAHU [ ]VAVAHU [X]CAV
- Other [X]HEPA [ ]BAG [ ]CARTRIDGE [ ]CHARCOAL
- f. Direct Expansion: Number**
- Window units .....
- Thru-the-wall.....
- Single zone ..... *split systems*
- Other .....
- g. Distribution Boxes:**
- VAV [ ]FC [ ]REHEAT .....
- CAV [ ]FC [X]REHEAT.....
- DUAL DUCT [ ]FC [ ]REHEAT .....
- h. Special Systems:**
- Type.....
- Capacity.....
- i. Control Systems:**
- [X]Pneu [X]Electric [ ]DDC [X]DDC Upgrade.....

**j. Fans:**

- [ ] Exhaust equipment ..... 70 Exhaust Fans
- [ ] Recalculating .....

**COMMENTS:**

*Five Multizone air handling units are 35 years old and will need to be replaced within the next five years. MZ5&6 are to be replaced this fall. A detailed engineering study needs to be completed before replacing the remaining units.*

*Exhaust fan units are 35 years old and many will need to be replaced within the next five years.*

*The leaking air handling unit access doors need to be repaired in room 142M.*

# ELECTRICAL SERVICE AND DISTRIBUTION

FAC #: 180

DATE: 12/30/97

INSPECTOR: JAO

**COMPONENT RATING: (\$ 166,763) x (77%) = \$ 127,095**

Possible Value	Condition Value Multiplier	Component Value
-------------------	-------------------------------	--------------------

## SYSTEM DESCRIPTION

### a. Service:

Substation:  Buckeye,  McCracken Power Plant  AEP

Primary Voltage:  13,200 Volts,  Volts

Switch Gear Circuit No.: 201/306

Transformer: *none*

Manufacture	Type	KVA	Secondary/Voltages	Location
GE	Oil	750	208/120	north side of building

### b. Distribution System:

#### 1. Motor Control Center (MCC) Room 142A and 350M

Panelboard  Fused,  Circuit Breakers

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

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

#### 2. Lighting Room 142A

Panelboard  Fused,  Circuit Breakers

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

Amperage  800A,  400A,  250A,  200A,  150A,  100A

#### 3. Building Power Room 142A

Panelboard  Fused,  Circuit Breakers

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

Amperage  800A,  400A,  250A,  200A,  150A,  100A

#### 4. Isolated Ground Power 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

Conductor  Copper,  Aluminum,  MIT

Wire:  PVC Cover,  Romex,  Armored Cable(BX)

### d. Emergency System:

Battery backup Room

Emergency Panel Room 142M

UPS Room

### e. Emergency Generator:

Size: 110 KVA, Location, Room #142A

COMMENTS: *none*

## ELECTRICAL LIGHTING AND POWER

FAC #: 180

DATE: 12/30/97

INSPECTOR: JAO

<b>COMPONENT RATING: (\$ 1,114,973) x (80%) = \$ 892,056</b>						
<table style="margin: auto; border: none;"> <tr> <td style="padding: 0 10px;">Possible</td> <td style="padding: 0 10px;">Condition</td> <td style="padding: 0 10px;">Component</td> </tr> <tr> <td style="padding: 0 10px;">Value</td> <td style="padding: 0 10px;">Value Multiplier</td> <td style="padding: 0 10px;">Value</td> </tr> </table>	Possible	Condition	Component	Value	Value Multiplier	Value
Possible	Condition	Component				
Value	Value Multiplier	Value				

**SYSTEM DESCRIPTION**

**Sat Att**

**a. Lighting (lamp type):**

- [ ] [X] Fluor 40 watt.....*on third floor*
- [X] [ ] Fluor 32 watt.....*in lobby, office and remodeled labs*
- [X] [ ] Fluor Can ..... *in lobby, office and conference room*
- [ ] [ ] Incandescent .....
- [ ] [ ] HID [ ]Mercury [ ]HPS [ ]Metal Halide .....
- [ ] [ ] Low Voltage (12V).....
- [ ] [ ] Other .....

**b. Lighting Levels**

- [X] [ ] Halls.....
- [X] [ ] Rooms.....
- [X] [ ] Mechanical Rooms .....

**c. Fixture Condition**

- [X] [ ] Fixtures .....
- [X] [ ] Bulbs.....
- [X] [ ] Fixture Lens.....

**d. Receptacles & Switches:**

- [X] [ ] Wall Outlet 20A .....
- [ ] [ ] GFIC Breakers .....
- [X] [ ] Switches.....
- [X] [ ] Cover Plates.....

**c. Special:**

- [X] [ ] Lightning Protection .....
- [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 .....

**COMMENTS:**

*The remaining 40 watt and incandescent lighting fixtures in several areas on the third floor need to be replaced with the new 32 watt lighting fixtures.*

## SAFETY STANDARDS

FAC #: 180

DATE: 12/30/97

INSPECTOR: JAO

<b>COMPONENT RATING: (\$ <u>640,368</u>) x ( <u>59%</u>) = \$ <u>377,130</u></b>						
<table style="margin: auto; border: none;"> <tr> <td style="padding: 0 10px;">Possible</td> <td style="padding: 0 10px;">Condition</td> <td style="padding: 0 10px;">Component</td> </tr> <tr> <td style="padding: 0 10px;">Value</td> <td style="padding: 0 10px;">Value Multiplier</td> <td style="padding: 0 10px;">Value</td> </tr> </table>	Possible	Condition	Component	Value	Value Multiplier	Value
Possible	Condition	Component				
Value	Value Multiplier	Value				

**SYSTEM DESCRIPTION**

Sat    Att

**a. Exits:**

Stair Construction:

- [ X ]    [   ]    concrete ..... *in front stairwells*
- [ X ]    [   ]    steel ..... *with concrete fill*
- [   ]    [   ]    wood.....
- [ X ]    [   ]    Number of Exit Stairs ..... *three*
- [ X ]    [   ]    Number of Other Exits ..... *six*

**b. Fire Rating:**

- [   ]    [   ]    Construction Type: I\_ II\_ X III\_ IV\_ V\_ VI\_ .....
- Building Height: 33 ft., 3 stories .....

**c. Extinguishing Systems:**

- [ X ]    [   ]    Portable.....
- [   ]    [   ]    Standpipe .....
- [   ]    [   ]    Hose Cabinets.....
- [   ]    [   ]    Hoses .....
- [ X ]    [   ]    Sprinklers..... *limited*
- [   ]    [   ]    Gas Suppression .....
- [   ]    [   ]    Other .....

**d. Detection & Alarm Systems:**

- [ X ]    [   ]    Pull Stations.....
- [ X ]    [   ]    Bells.....
- [   ]    [   ]    Horns .....
- [   ]    [   ]    Strobes .....
- [ X ]    [   ]    Annunciator Panel ..... *142A*
- [ X ]    [   ]    Smoke Detectors..... *in ducts*
- [   ]    [   ]      Halls .....
- [   ]    [   ]      Elevators.....
- [   ]    [   ]      Rooms .....
- [   ]    [   ]      Equip Rooms .....
- [ X ]    [   ]      Ducts .....

**e. Lighting Systems:**

- [ X ]    [   ]    Exit Signs [ ]BATTERY [X]EMC .....
- [ X ]    [   ]    Exit Lighting [X]BATTERY [X]EMC .....
- [ X ]    [   ]    Emergency Lighting [X]BATTERY [X]EMC.....
- [ X ]    [   ]    Emergency Generator ..... *110 KVA*

**f. Lightning Protection**

COMMENTS: none

## BUILDING PERIMETER EVALUATION

FAC #: 180

DATE: 12/30/97

INSPECTOR: JAO

### SYSTEM DESCRIPTION

Sat     Att

**a. Building Access:**

- [ ]     Driveway ..... *south and west side*
- [X]     Loading Dock ..... *south side*
- Sidewalks.....
- [ ]     Front.....
- [ ]     Side.....
- [ ]     Rear.....
- Steps.....
- [ ]     Front.....
- [ ]     Side.....
- [ ]     Rear.....
- [X]     Ramp ..... *south side*

**b. Lawn and Landscaping:**

- [ ]     Lawn.....
- [X]     Shrubs.....
- [X]     Trees.....
- [ ]     Undesirable Insect.....
- [ ]     Bedding Material.....
- [ ]     Watering System.....

**c. General Site Information:**

- [ ]     Signage.....
- [ ]     Address Identification.....
- [ ]     Security Lights.....
- [ ]     Street Lights.....
- [X]     Drainage ..... *in mechanical room window wells*
- [ ]     Storm Drains.....

**COMMENTS:**

*The concrete curb on the south and west side needs to be repaired in several places.  
 Trees and shrubs around the building need to be trimmed.  
 The stairwell and window well drains need to be cleaned.  
 The loading dock concrete wall needs to be repaired.  
 The brick supporting the ramp needs to be repaired.  
 The grade in the rear of the building needs to be raised and compacted to slope away from the building.  
 The concrete walk in the rear of the building needs to be leveled at the curb.*

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 State of Ohio Division of Factory and Building Inspection at the time of construction approved the buildings inspected. 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
COND.....	CONDENSATE WATER
CAV .....	CONSTANT AIR VOLUME
CW .....	CONDENSER WATER OR CHILLED WATER
DCW .....	DOMESTIC COLD WATER
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
EWC .....	ELECTRIC WATER COOLER
EMC .....	EMERGENCY CIRCUIT
FPM.....	FEET PER MINUTE
GPM .....	GALLONS PER MINUTE
HID.....	HIGH INTENSITY DISCHARGE LIGHT
HHW .....	HEATING HOT WATER
HPS .....	HIGH PRESSURE STEAM (125 PSI)
HVAC.....	HEATING, VENTILATING AND AIR CONDITIONING
KV .....	KILOVOLTS
KVA .....	KILOVOLTS AMPS
KW .....	KILOWATTS
LF .....	LINEAL FEET
LPS .....	LOW PRESSURE STEAM (15 PSI)
MCC .....	MOTOR CONTROL CENTER
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)
SF .....	SQUARE FEET
S/P .....	STAND PIPE
SY.....	SQUARE YARDS
TR.....	TERMINAL REHEAT
V .....	VOLTS
VAV .....	VARIABLE AIR VOLUME

**APPENDIX**  
Reduced Scale Building Floor Plans  
C-1 Building Space Assignments