

**FACILITY AUDIT REPORT
GOSS LABORATORY
#180**

OCTOBER 16, 1991

Prepared by:
The Ohio State University
Department of Physical Facilities
Division of Resource Management

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GENERAL BUILDING INFORMATION

GOSS LABORATORY #180

BUILDING ADDRESS: 1925 COFFEY ROAD

GROSS SQ. FT.: 69,087

NET ASSIGNABLE SQ. FT.: 38,696

MECHANICAL/CUSTODIAL AREA SQ. FT.: 11,531

YEAR OF CONSTRUCTION: 1962

YEAR OF LAST RENOVATION: N/A

NUMBER OF STORIES/BASEMENT: THREE STORIES, NO BASEMENT

AIR CONDITIONING (Percentage): 80%

CURRENT USE: VETERINARY PATHOLOGY DEPARTMENT

TYPE OF CONSTRUCTION: REINFORCED CONCRETE FRAME WITH BRICK EXTERIOR

ESTIMATED REPLACEMENT COST: \$10,153,000

BUILDING APPEARANCE: FUNCTIONALLY EFFICIENT, WELL MAINTAINED, VERY CLEAN

HANDICAPPED ACCESSIBILITY: THRU THE SOUTHEAST DOOR TO THE MAIN CORRIDOR TO THE ELEVATOR. RESTROOMS HAVE BEEN MODIFIED FOR WHEELCHAIR ACCESS.

OVERALL BUILDING CONDITION: FUNCTIONALLY SATISFACTORY

NUMBER OF EXIT STAIRWAYS: THREE (3)

BUILDING SYSTEMS INFORMATION

GOSS LABORATORY #180

HEATING:

Source CENTRAL POWER PLANT STEAM LINE (5 GAS FIRED BOILERS AS BACK-UP)
Type Heating System STEAM AND HOT WATER
Steam (Line size, valve location) RM 142A, 3" HPS, 2"CR
Building Htg Water (line size, valve location) STEAM CONVERTER IN ROOM 142A

VENTILATION SYSTEM: 4 MULTI-ZONE SYSTEMS, 3 SINGLE ZONE SYSTEMS

COOLING:

Bldg % 80% Chillers NONE, CHILLED WATER IS SUPPLIED BY VET. HOSP.
Window Units N/A Thru-the-wall N/A Direct exp. units ONE

HVAC CONTROL SYSTEM: DIRECT DIGITAL CONTROL SYSTEM

ELECTRIC: Source Size(KVA) Primary/Secondary Switchgear & Main Disc. (Rm)
1. CIRCUIT 201/306 750 13,200/ 208Y/120

PLUMBING:

Water (size, valve location) 6", RM 142A
Gas (size, valve location) 4", LOCATED ON THE WEST SIDE OF THE BUILDING
Domestic Hot Water (size, valve location) LOCAL STEAM CONVERTER IN RM 142A
Compressed Air (size, location) LOCAL AIR COMPRESSORS

SEWERS:

Storm 2 @ 6" AND 1 @ 8" Sanitary 2 @ 6"

METERS:

Gas (size, location) 4" LINE LOCATED IN PIT ON THE WESTSIDE OF BUILDING
Water (size, location) 6" LINE ON NORTH WALL OF ROOM 142A
Electric (size, location) LOCATED IN ROOM 142A (DEMAND METER)

ALARM SYSTEMS:

Fire Alarm MANUAL Panel Location RM #142A
Fire Pump NO Pump Location NONE
Sprinklers NO Panel Location NONE
Other Alarms N/A

ELEVATORS:

Number TWO Type (passenger, freight) 1-PASSENGER & 1-FREIGHT
Manufacturer WESTINGHOUSE Size 3,000 LBS & 4,000 LBS

EMERGENCY GENERATOR: Size 450 KV, DIESEL Location RM 142A (BOILER ROOM)

KEY BOX LOCATION: ENTRANCE ON SOUTH SIDE AT THE LOADING DOCK

ASBESTOS SURVEY (1986):

ASBESTOS CONTAINING MATERIALS WERE IDENTIFIED IN RMS 142, 142A, & 156 IN THE SPRAY APPLIED FIREPROOFING AND IN STEAM LINE INSULATION.

GOSS LABORATORY NARRATIVE

GENERAL

This Building Audit was conducted by Physical Facilities for the purpose of evaluating the present condition of those aspects of the building for which Physical Facilities has a budgetary responsibility. This audit describes the current physical condition of those aspects of the facility and identifies existing corrective maintenance repairs and building component system replacement requirements.

It has been assumed that the program needs of the tenant departments are being met by the facility. In addition, this audit does not intend to assess the condition of those aspects of this facility which are the budgetary responsibility of tenant departments.

Audit goals and methodology are described in greater detail in the "Building Audit Methodology" section of this report.

HISTORY

Construction of the original portion of Goss Laboratory was completed in 1961. The total gross square feet of Goss Lab is 69,087. Facility use, Veterinary Pathology teaching/research facility, has remained unchanged since initial construction. Building use by activity category is: 37.3% Laboratory, 29.8% Mechanical/Custodial, 13.6% Office and related uses, 12.3% Animal Quarters, and 7.0% Classroom.

The majority of space in the building is used and maintained by the Department of Veterinary Pathobiology. The Department of Physical Facility is primarily responsible for the exterior of the building and the HVAC system. The department has been very active at remodeling the laboratory space in the building over the past few years. Approximately half of the laboratories in the building have been remodeled. The remodeling of the laboratories by the department has been very extensive. The space is gutted and new floors, ceilings, cabinets, lighting, work spaces, electrical and plumbing systems are installed. The mechanical systems are usually connected to the existing systems that are in the building.

There is currently a funded capital project to remodel a portion of the first floor to provide a retrovirus containment facility to be used for a new research project.

PRIMARY SYSTEMS

The building rests on continuous footings drained by 4 and 6 inch perimeter tiles connected to sump pumps. Foundation walls are predominantly cast-in-place concrete. The supporting building structure is reinforced concrete columns supporting cast-in-place concrete floors. The roof structure is cast-in place concrete resting on reinforced concrete columns and masonry bearing exterior walls. The structural elements all appear to be in good condition.

The roof coverings on Goss Lab is the original built-up roof installed when the building was built. The roof is going to require replacement in the near future. Before the roof is replaced there are several pieces of unused equipment mounted on the roof that should be removed. This abandoned equipment includes a cooling tower, several air conditioning condensers, and antennas.

The exterior is predominantly brick with cut limestone at the east entrance. The windows are aluminum single pane double-hung type. The exterior brick is showing some signs of neglect. The caulking of the building appear to be original and requires replacement. The brick and limestone needs some tuckpointing and should be cleaned and sealed. The Physical Facilities Department has proposed a project to accomplish the tasks describe above. The original windows are difficult to operate and the windows themselves are very energy inefficient. The windows should be replaced with insulating windows to improve building comfort and reduce energy demands.

SECONDARY SYSTEMS

Interior partitions are mostly glazed block and plastered concrete block. The walls in the entrance to the lobbies on the 1st & 2nd floor are paneled in wood.

Wall finishes include unpainted glazed tile, painted plaster and paneling. Interior partitions are in very good condition, which is reflective of the type of materials used for construction, mostly glazed tile and block. Hardware is original and is still functional but beginning to show signs of aging.

Floor coverings range from the original vinyl asbestos tile, terrazzo, epoxy, sheet goods, and ceramic tile. Floor coverings throughout are in serviceable condition and have been well maintained. Because of the cleaning solutions used on a daily basis these floors should be replaced more often than those in classroom buildings.

Ceiling finishes vary throughout the complex. The older sections have predominantly 12" x 24" acoustic tiles and painted plaster. Several of the remodeled laboratories have a washable lay-in 2' x 4' acoustic tile. There are some stains from plumbing and roof leaks evident throughout sections of the building. The majority of damaged ceiling tiles are the original 12" X 24" tiles. Replacement tiles are not readily available. These original ceiling tiles should be replaced with new 2' X 4' suspended ceilings.

SERVICE SYSTEMS

The building has two elevators, a freight elevator and a passenger elevator. The passenger elevator does not have an emergency phone and requires modernization. The freight elevator is in good condition.

The major service systems have been well maintained. The plumbing fixtures were all replaced a few years ago. While the system is beginning to deteriorate, the number of maintenance problems posed by the plumbing to date probably does not warrant any major replacements at this point in time.

There are five (5) gas fired boilers located in the lower level of Goss that supplied steam for heating prior to the installation of the high pressure steam line from the central power plant. These boilers are to serve as a back-up for steam generation if the power plant steam line would not be available. These boilers have not been fired for several years. There is currently a program to test and treat the water on a monthly basis to keep the tubes from corroding.

Building HVAC systems include single-zone and multi-zone systems. The chilled water for these systems is supplied by the chillers located in the Veterinary Hospital next door. The building has perimeter wall radiation for heating to supplement the ventilation systems.

The pneumatic control systems for the laboratories have been a maintenance problem. Several of the laboratories are designed to be under negative pressure to prevent circulation of contaminated air in the building. Therefore, correct operation of the air handlers and the controls is critical to providing the proper environment for the research projects. The air handling equipment is 30 years old and will need to be considered for replacement sometime in the near future.

ELECTRICITY

The building has one transformer. It is located on the north side of the building. The demand reading calculated to a capacity utilization of 43%. Electric power to the building was reported to be adequate for current use by maintenance personnel. The switchgear is at its capacity limit, so new switchgear and feeder panels would be required if additional capacity is needed for the building.

Hallway lighting is a combination of incandescent and fluorescent lamps. We recommend replacement of all incandescent lights with energy efficient fluorescent lighting. Several of the laboratories that have been remodeled have had new panel boxes installed and all the electric circuits for the lab controlled by the new panel. There were no signs of overload conditions in the panels checked.

SAFETY STANDARDS

The building is equipped with a manual fire alarm system. There are lighted exit signs throughout. There are emergency lights in several of the mechanical rooms and the building possesses a back-up diesel powered emergency generator. Wheelchair access is provided by a ramp on the southeast corner of the building.

The Ohio Board of Regents Facilities Asbestos Inspection and Risk Assessment Program's report: Inventory of Friable Asbestos-Containing Materials in Buildings of the Ohio State University (Main and Branch Campuses) and Recommendations for Corrective Action by PEI Associates, September 1986, identifies asbestos containing materials in pipe insulation and sprayed on fire insulation in rooms 142 & 156.

BUILDING PERIMETER

This building has a loading dock on the south side of the building that needs to be repaired. The concrete in the sidewall has deteriorated and the bumper blocks are coming loose. Sidewalks to the east of the building exhibited some cracking and heaving in several areas. Plantings in general presented a moderately well maintained appearance, but should be trimmed back. The driveway leading to the west delivery door is cracked and spalling with some minor potholes observed. This area is hosed down to wash away spills year around and freezing of the water accelerates this deterioration.

CONCLUSION

Goss Laboratory built in the early 1960s, has had several of the department laboratories remodeled in recent years. The Department of Physical Facilities has proposed a number of repair and renovation projects to correct deterioration

of the exterior of the building. These projects need to be funded before additional damage is done.

This report recommends several new projects to be added to the current repair and renovation project list. These new projects are replacement of the roof, modernization of the passenger elevator, cleaning of the HVAC ducts and renovation of the pneumatic controls. Building improvement projects include window replacement and replacing the incandescent lighting in the corridors and stock rooms.

The building has a good physical appearance because the exposed surfaces have been well maintained. Housekeeping has done a good job of keeping the building clean. However, several of the building components are aging and deteriorating and need to be updated. The masonry exterior is in poor condition in several areas and needs repaired before additional damage is done.

PROPOSED MAINTENANCE PROJECTS
(R&R or CAPITAL FUNDED)

A. Corrective Maintenance Projects:

- 1. Remove all deteriorated and missing mortar joints, clean and waterproof exterior, and caulk all windows..\$ 51,000*
 - 2. Replace old 1' X 2' ceiling panels with new 2' X 4' acoustic panels and repaint plaster ceilings..\$ 15,120
 - 3. Repair faulty concrete at the loading dock, replace asphalt approach to concrete pad at Northwest delivery door, and replace front entrance walk that has settled.....\$ 12,000*
 - 4. Improve passenger elevator to include fireman's emergency package and emergency telephone communications.....\$ 35,000
 - 5. Waterproof the floor in mechanical room (RM 400M) to stop water leakage to room below.....\$ 8,000*
- Sub Total \$121,120

B. Building Improvements/Addition Projects:

- 1. Replace single glazed windows with insulated double glazed windows.....\$115,040
 - 2. Replace the remaining incandescent lights with fluorescent lamps.....\$ 27,000
- Sub Total \$142,040

C. Building Component Replacements expected within the next 5 Years:

- 1. Clean the ducts of the HVAC systems. Renovate HVAC controls and balance air flow to keep negative air pressure in laboratory spaces.....\$ 26,000
 - 2. Replace BUR roof and insulation.....\$188,055
- Sub Total \$214,055

Total cost for all estimated projects = \$451,215

* These projects are currently on our departmental project list as proposed projects.

MAINTENANCE PROJECTS
(Less than \$5,000)

Goss Laboratory #180

1. Trim trees and shrubbery around building.
2. Complete installation of chain link fence around transformer.
3. Paint exterior steel and wood doors.
4. Clean all ceiling registers and light fixtures.
5. Replace burned-out exit light bulbs.

BUILDING EVALUATION SUMMARY

I. BUILDING INFORMATION

FAC # 180 FACILITY NAME: GOSS LABORATORY
 DATE: 9-24-91 INSPECTOR: RDL
 YEAR CONSTRUCTED: 1961
 GROSS SQ FT: 69,087 NET SQ FT: 49,634
 REPLACEMENT COST \$ (86% x 10,153,000) = 8,731,580*

II. COMPONENT RATING

COMPONENT	BUILDING COMPONENT PERCENTAGE OF TOTAL COST **	BUILDING COMPONENT REPLACEMENT COST*	CONDITION VALUE MULTIPLIER FOR BLDG. COMPONENT	BUILDING COMPONENT CURRENT VALUE
Foundation	4.12	359,741	0.90	323,767
Columns and Beams	11.12	970,952	0.90	873,857
Exterior Walls	6.59	575,411	0.70	402,788
Windows & Doors	3.22	281,157	0.67	188,375
Roofing	2.12	185,109	0.50	92,555
Partitions & Drs.	8.48	740,438	0.80	592,350
Wall Finishes	4.28	373,712	0.85	317,655
Floor Finishes	4.78	417,370	0.77	321,375
Ceilings & Finish	5.68	495,954	0.51	252,937
Conveying	1.33	116,130	0.55	63,872
Plumbing	17.48	1,526,280	0.70	1,068,396
Heating	6.93	605,098	0.63	381,212
Cooling & Vent.	7.96	695,034	0.63	437,871
Elec. Ser. & Dist	1.38	120,496	0.60	72,298
Lighting & Power	9.23	805,925	0.71	572,207
Safety Standards	5.30	462,774	0.63	291,548
TOTALS	100.00	8,731,580		6,253,063

III. BUILDING RATING SUMMARY

Overall Building Rating = 71.7%

* Replacement Cost assigned January 1991 by The Office of Campus Planning and Space Utilization deducting 14% for 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 9-24-91 INSPECTOR: RDL

A. SYSTEM DESCRIPTION

	N/A	Sat	Att
a. Footings:			
Individual Footings & Piers <u>FOR THE INTERIOR COLUMNS</u>	[]	[X]	[]
Continuous Footings <u>FOR THE EXTERIOR WALLS</u>	[]	[X]	[]
Grade Beams _____	[X]	[]	[]
Piles _____	[X]	[]	[]
Caissons _____	[X]	[]	[]
b. Foundation Wall Materials:			
Steel _____	[X]	[]	[]
Concrete Cast-in-place <u>REINFORCING BARS WERE USED</u>	[]	[X]	[]
Concrete Block _____	[X]	[]	[]
Other _____	[X]	[]	[]
c. Waterproofing and Underdrain:			
Coating _____	[X]	[]	[]
Membrane _____	[X]	[]	[]
Board _____	[X]	[]	[]
Drain Tile <u>4 and 6 INCH PERIMETER DRAIN TILE</u>	[]	[X]	[]
d. Slab on Grade (floor):			
Plain _____	[X]	[]	[]
Reinforced _____	[]	[X]	[]
e. Special Substructures:			
_____	[X]	[]	[]

B. COMMENTS:

1. NO SETTLEMENT OR CRACKS WERE OBSERVED IN THE FOUNDATION.

C. COMPONENT RATING: $\frac{(\$359,741)}{\text{Possible Value}} \times \frac{(0.90)}{\text{Condition Value Multiplier}} = \frac{\$323,767}{\text{Component Value}}$

EXTERIOR WINDOWS & DOORS

FAC # 180 DATE 9-25-91 INSPECTOR: RDL

A. SYSTEM DESCRIPTION

a. Windows type & number:	<u>N/A</u>	<u>Sat</u>	<u>Att</u>
Wood _____	[X]	[]	[]
Steel _____	[X]	[]	[]
Alum <u>DOUBLE HUNG WINDOWS (31 WINDOWS 2 1/2' X 4')</u>	[]	[]	[X]
Other <u>GLASS BLOCKS HAVE BEEN USED IN 9 WINDOW AREAS</u>	[]	[X]	[]
 b. Window glazing			
Single pane <u>ALUMINUM FRAMES DO NOT HAVE A THERMAL-BREAK</u>	[]	[]	[X]
Double pane _____	[X]	[]	[]
Other _____	[X]	[]	[]
 c. Doors type & number:			
Wood <u>REAR OVERHEAD DOOR IS USED FOR TRASH REMOVAL</u>	[]	[X]	[]
Steel <u>ROLL-UP DELIVERY DOORS IN REAR & DOUBLE SWING DRS.</u>	[]	[]	[X]
Alum <u>ENTRANCE DOORS TO STAIRWELLS, HINGES ARE WORN</u>	[]	[X]	[]
Other <u>FRONT ENTRANCE HAS GLASS DOOR AND GLASS SIDE PANEL</u>	[]	[X]	[]
 d. Shading Devices:			
Types <u>VENETIAN BLINDS USED AT SOME WINDOWS</u>	[]	[X]	[]

B. COMMENTS:

1. WINDOWS ARE VERY DIFFICULT TO OPERATE. BUILDING HAS RELATIVELY FEW WINDOWS. WINDOWS ARE ENERGY INEFFICIENT.
2. STEEL DOORS NEED TO BE PAINTED.

C. COMPONENT RATING: $\left(\frac{\$281,157}{\text{Possible Value}} \right) \times \left(\frac{0.67}{\text{Condition Value Multiplier}} \right) = \frac{\$188,375}{\text{Component Value}}$

WALL FINISHES

FAC # 180 DATE 9-29-91 INSPECTOR: RDL

A. SYSTEM DESCRIPTION	<u>N/A</u>	<u>Sat</u>	<u>Att</u>
a. Paint <u>ON CONCRETE BLOCK WALLS IN STORAGE RMS. & LABS.</u>	[]	[X]	[]
b. Wall Coating _____	[X]	[]	[]
c. Wall Coverings _____	[X]	[]	[]
d. Paneling			
Prefinished <u>LOBBY, FIRST, AND SECOND FLOOR CORRIDORS</u>	[]	[X]	[]
Plank _____	[X]	[]	[]
e. Cork _____	[X]	[]	[]
f. Wallpaper _____	[X]	[]	[]
g. Ceramic Tile <u>USED ON WALLS OF SOME LAB AREAS</u>	[]	[X]	[]
h. Trim & Wainscot <u>LOBBY OF FIRST & SECOND FLOOR</u>	[]	[X]	[]
i. Decoration _____	[X]	[]	[]
j. Glass _____	[X]	[]	[]
k. Other <u>GLAZED BLOCK USED IN CORRIDORS, LABS & STAIRWELLS</u>	[]	[X]	[]

B. COMMENTS

1. THE WALL FINISHES HAVE BEEN WELL MAINTAINED.

C. COMPONENT RATING: (\$373,712) x (0.85) = \$317,655
 Possible Condition Component
 Value Value Multiplier Value

FLOOR FINISHES

FAC # 180 DATE 9-30-91 INSPECTOR: RDL

A. SYSTEM DESCRIPTION

	<u>N/A</u>	<u>Sat</u>	<u>Att</u>
a. Carpet:			
Rolled _____	[X]	[]	[]
Tile _____	[X]	[]	[]
b. Composition:			
Epoxy <u>LABS HAVE EPOXY FLOORS THAT ARE ABOUT 5 YRS. OLD</u>	[]	[X]	[]
Synthetic _____	[X]	[]	[]
Other _____	[X]	[]	[]
c. Concrete Topping:			
Clear Sealant <u>BASEMENT (1ST FLOOR) CORRIDORS & STORAGE</u>	[]	[X]	[]
Abrasive _____	[X]	[]	[]
Epoxy <u>SEE ABOVE SECTION B</u>	[]	[X]	[]
Aggregate _____	[X]	[]	[]
d. Resilient:			
Vinyl Tile <u>OFFICE AREAS & SOME LABORATORIES</u>	[]	[X]	[]
Linoleum <u>SHEET GOODS HAVE BEEN USED FOR REMODELED LABS</u>	[]	[X]	[]
Vinyl _____	[X]	[]	[]
Rubber _____	[X]	[]	[]
Cork _____	[X]	[]	[]
e. Ceramic Tile <u>USED IN EPOXY FOR NECROPSY AREA</u>	[]	[X]	[]
f. Masonry _____	[X]	[]	[]
g. Terrazzo <u>STAIRWELLS, 1ST & 2ND FLOOR LOBBY, RESTROOMS</u>	[]	[X]	[]
h. Wood _____	[X]	[]	[]
i. Metal _____	[X]	[]	[]

B. COMMENTS

1. CHEMICALS USED FOR CLEANING CAUSE ABNORMAL WEAR ON LABORATORY FLOORS. THE EXPECTED USEFUL LIFE OF THESE FLOORS IS SHORTER THAN NORMALLY EXPERIENCED.

C. COMPONENT RATING: $(\underline{\$417,370}) \times (\underline{0.77}) = \underline{\$321,375}$

Possible	Condition	Component
Value	Value Multiplier	Value

CEILINGS AND FINISHES

FAC # 180 DATE 9-30-91 INSPECTOR: RDL

A. SYSTEM DESCRIPTION

a. System Type:	N/A	Sat	Att
Exposed <u>STORAGE ROOMS AND MECHANICAL ROOMS</u>	[]	[X]	[]
Applied to Structure _____	[X]	[]	[]
Suspended <u>ALL FINISHED CEILINGS ARE SUSPENDED</u>	[]	[X]	[]

b. Materials:

Drywall _____	[X]	[]	[]
Plaster <u>USED FOR HIGH TECH LABS & NECROPSY ROOMS</u>	[]	[X]	[]
Mineral Fiber Board <u>1' X 2' ACOUSTIC PANELS (CORRIDORS)</u>	[]	[]	[X]
Metal Pan _____	[X]	[]	[]
Luminous Panels _____	[X]	[]	[]
Other _____	[X]	[]	[]

c. Finishes:

Paint <u>PLASTER CEILINGS IN LABORATORIES</u>	[]	[]	[X]
Mineral Fiber <u>ACOUSTIC TILE CEILINGS, OFFICES & CORRIDORS</u>	[]	[]	[X]
Fabric _____	[X]	[]	[]
Prefinished <u>NEWER SUSPENDED CEILINGS IN 1ST FLR. LOBBY</u>	[]	[X]	[]
Other _____	[X]	[]	[]

d. Openings & Inserts:

Air Distribution HVAC SUPPLY GRILLES (DIRTY) _____	[]	[]	[X]
Lighting Fixtures <u>INSTALLED IN SUSPENDED CEILING</u>	[]	[]	[X]
Access Panels <u>PROVIDED IN PLASTER CEILINGS IN LABS.</u>	[]	[X]	[]
Skylights _____	[X]	[]	[]
Fire Protection _____	[X]	[]	[]
Other _____	[X]	[]	[]

B. COMMENTS:

1. ORIGINAL 1' X 2' SUSPENDED CEILING IS STAINED AND SOME PANELS MISSING.
2. PAINT IS PEELING ON PLASTER CEILINGS IN AUTOCLAVE AREA & ROOM 232.
3. HVAC REGISTERS NEED TO BE CLEANED.

C. COMPONENT RATING: $(\underline{\$495,954}) \times (\underline{0.51}) = \underline{\$252,937}$

Possible	Condition	Component
Value	Value Multiplier	Value

CONVEYING

FAC # 180 DATE 9-30-91 INSPECTOR: RDL

A. SYSTEM DESCRIPTION

a. Elevators:

	N/A	Sat	Att
Number <u>TWO (2)</u>	[]	[X]	[]
Type <u>1- PASSENGER AND 1- FREIGHT</u>	[]	[]	[X]
Speed <u>100 FPM</u> <u>75 FPM</u>	[]	[X]	[]
Capacity (lbs) <u>3,000 LBS.</u> <u>4,000 LBS.</u>	[]	[X]	[]
Dimensions <u>4 1/2' X 6 1/3' (PASSENGER)</u>	[]	[X]	[]
Door Operation:			
Center <u>FREIGHT DOOR IS A VERTICAL LIFT DOORS</u>	[]	[X]	[]
To Side <u>PASSENGER HAS SIDE OPENING DOORS</u>	[]	[X]	[]

b. Lifts and Hoists:

Number <u>NECROPSY LAB HAS THREE HYDRAULIC LIFT TABLES</u>	[]	[X]	[]
Type <u>HYDRAULIC UNITS WERE REBUILT ABOUT 5 YEARS AGO.</u>	[]	[X]	[]

c. Moving Stairs and Walks:

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

d. Conveyors:

Number <u>OVERHEAD CONVEYOR IN NECROPSY AREA. THIS SYSTEM</u>	[]	[X]	[]
Type <u>HAS BEEN MAINTAINED, BUT IS GETTING OLD.</u>	[]	[X]	[]

e. Pneumatic Tubes:

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

B. COMMENTS:

1. WE HAVE HAD PROBLEMS FINDING REPLACEMENT PARTS FOR THE WESTINGHOUSE ELEVATORS. THESE ELEVATORS NEED TO BE UPDATED TO INCLUDE FIREMAN'S PACKAGE AND EMERGENCY TELEPHONE PACKAGE.

C. COMPONENT RATING: $(\underline{\$116,130}) \times (\underline{0.55}) = \underline{\$63,872}$

Possible	Condition	Component
Value	Value Multiplier	Value

MECHANICAL/PLUMBING

FAC # 180 DATE 9-30-91 INSPECTOR: RDL

A. SYSTEM DESCRIPTION

a. Services Available:	N/A	Sat	Att
Cold Water <u>6" WATER LINE AT NW CORNER OF THE BUILDING</u>	[]	[X]	[]
Hot Water <u>STEAM CONVERTER LOCATED IN ROOM 142A</u>	[]	[X]	[]
Acid Waste <u>INDIVIDUAL SYSTEMS USED IN SOME AREAS</u>	[]	[X]	[]
Oxygen _____	[X]	[]	[]
Natural Gas <u>4" GAS LINE ON WEST SIDE OF BUILDING</u>	[]	[X]	[]
Vacuum <u>HOUSEKEEPING CENTRAL VACUUM SYSTEM ABANDON</u>	[]	[]	[X]
Distilled Water <u>STILL LOCATED IN ROOM 400M</u>	[]	[X]	[]
Compressed Air <u>COMPRESSOR LOCATED IN ROOM 142M</u>	[]	[X]	[]
Other <u>SEVERAL SPECIAL SYSTEMS FOR LABS, CO2 IN ROOM 338</u>	[]	[X]	[]
b. Piping & Fittings:			
Cast Iron <u>WASTE LINES FOR BUILDING DRAINS</u>	[]	[X]	[]
Copper Tubing <u>USED FOR DOMESTIC WATER LINES AND AIR LINES</u>	[]	[X]	[]
Plastic _____	[X]	[]	[]
Steel _____	[X]	[]	[]
Glass _____	[X]	[]	[]
Other <u>WASTE COLLECTION TANK FROM NECROPSY ROOMS</u>	[]	[X]	[]
c. Water Heaters:			
Electric _____	[X]	[]	[]
Gas _____	[X]	[]	[]
Oil _____	[X]	[]	[]
Steam Converter <u>USED TO PROVIDE HOT WATER ROOM 142A</u>	[]	[X]	[]
Other _____	[X]	[]	[]
d. Drainage:			
Storm Drains <u>6" LINE AND A 4" LINE TO A SUMP PUMP</u>	[]	[X]	[]
Sanitary Drainage <u>2-6" LINES AND 8" LINE</u>	[]	[X]	[]
Combined Storm/San. _____	[X]	[]	[]
Floor Drains _____	[]	[X]	[]
e. Fixtures:			
Water Closets <u>15 FIXTURES</u>	[]	[X]	[]
Urinals <u>7 FIXTURES</u>	[]	[X]	[]
Lavatories <u>14 FIXTURES</u>	[]	[X]	[]
Showers <u>4 LOCATED IN RMS 343,345,34,& 349</u>	[]	[X]	[]
Kitchen Sinks <u>ACID RESISTANT SINKS LOCATED IN LABS</u>	[]	[X]	[]
Service Sinks <u>JANITORIAL ROOMS ON EACH FLOOR</u>	[]	[X]	[]
Drinking Fountains _____	[X]	[]	[]
Electric Water Coolers <u>EACH FLOOR HAS WATER COOLERS</u>	[]	[X]	[]
f. Sprinkler Systems:			
Wet _____	[X]	[]	[]
Dry _____	[X]	[]	[]
Water Storage/Supply _____	[X]	[]	[]
g. Standpipe Systems:			
Wet _____	[X]	[]	[]
Dry _____	[X]	[]	[]
Valves _____	[X]	[]	[]
Hose Cabinets _____	[X]	[]	[]

B. COMMENTS:

1. SEVERAL OF THE LABORATORIES HAVE SAFETY SHOWERS.
2. ROOMS 343 THRU 349 ARE OLD DORMITORY ROOMS THAT ARE NOW BEING USED FOR FACULTY OFFICES.

C. COMPONENT RATING: (\$1,526,280) x (0.70) = \$1,068,396

Possible Condition Component

Value Value Multiplier Value

MECHANICAL/HEATING

FAC # 180

DATE: 9-30-91

INSPECTOR: RDL

A. SYSTEM DESCRIPTION

a. Heat Source:

	N/A	Sat	Att
Central Plant Steam <u>SUPPLIED FROM McCracken Power Plant</u>	[]	[X]	[]
Central Plant Hot Water _____	[X]	[]	[]
Boilers: Type <u>185,000 BTU INPUT GAS FIRED BOILERS</u>	[]	[]	[X]
Size <u>THERE ARE 5 BOILERS AVAILABLE AS BACK-UP</u>	[]	[X]	[]
Furnace: Type _____	[X]	[]	[]
Size _____	[X]	[]	[]
Heat Pump: Type _____	[X]	[]	[]
Size _____	[X]	[]	[]
Burners: gas _____	[X]	[]	[]
oil _____	[X]	[]	[]

b. System Type:

Steam _____	[X]	[]	[]
Hot Water <u>PERIMETER RADIATION & AIR HANDLER HEATING COILS</u>	[]	[X]	[]
Air _____	[X]	[]	[]
Electric _____	[X]	[]	[]
Solar _____	[X]	[]	[]
Other _____	[X]	[]	[]

c. Space Equipment:

Radiators _____	[X]	[]	[]
Convectors <u>LOCATED ON OUTSIDE WALL</u>	[]	[X]	[]
Finned Tube _____	[X]	[]	[]
Baseboard _____	[X]	[]	[]
2-Pipe Fan Coil <u>3 UNITS LOCATED IN LABORATORIES</u>	[]	[X]	[]
Unit Ventilators <u>9 UNITS LOCATED IN STAIRWELLS & STORAGE</u>	[]	[X]	[]
Multizone <u>3 MULTI-ZONE AIR HANDLER SYSTEMS</u>	[]	[]	[X]
Double Duct _____	[X]	[]	[]
Terminal Reheat <u>MANIFOLD SYSTEM HAS BEEN DISCONNECTED</u>	[X]	[]	[]
Other <u>3 SINGLE ZONE AIR HANDLER SYSTEMS</u>	[]	[]	[X]

d. Control Type:

Pneu <u>USED FOR OPERATING AIR HANDLER VALVES</u>	[]	[X]	[]
Electric _____	[X]	[]	[]
Electronic _____	[X]	[]	[]
DDC <u>USED TO MONITOR & CONTROL HVAC EQUIPMENT</u>	[]	[X]	[]
Manual Valves <u>USED FOR PERIMETER HEAT CONVECTORS</u>	[]	[X]	[]

B. COMMENTS:

1. AIR HANDLERS AND PIPING ARE OVER 30 YEARS OLD. THIS EQUIPMENT HAS BEEN RUNNING 24 HOURS PER DAY FROM THE TIME THE BUILDING WAS OCCUPIED IN 1961.
2. THERE IS NO PM RECORD THAT THE BACK-UP BOILERS ARE BEING MAINTAINED OTHER THAN THE WATER BEING CHECK FOR PROPER TREATMENT.

C. COMPONENT RATING: (\$605,098) x (0.63) = \$381,212

Possible	Condition	Component
Value	Value Multiplier	Value

COOLING & VENTILATING

FAC # 180 DATE: 10-1-91 INSPECTOR: RDL

A. SYSTEM DESCRIPTION

	N/A	Sat	Att
a. System:			
Type <u>MULTI-ZONE AND SINGLE-ZONE SYSTEMS</u>	[]	[]	[X]
Capacity <u>CHILLED WATER SUPPLIED BY VETERINARY HOSPITAL</u>	[X]	[]	[]
b. Chillers:			
Centrifugal <u>NONE</u>	[X]	[]	[]
Reciprocating <u>NONE</u>	[X]	[]	[]
Absorption <u>NONE</u>	[X]	[]	[]
c. Cooling Towers:			
Type _____	[X]	[]	[]
Capacity _____	[X]	[]	[]
d. Condensers: <u>NEW LENNOX DX UNIT INSTALLED BY DEPARTMENT</u>	[]	[X]	[]
e. Space Equipment:			
Direct Expansion -			
Window units _____	[X]	[]	[]
Thru-the-wall _____	[X]	[]	[]
Single zone _____	[X]	[]	[]
Single zone con. vol _____	[X]	[]	[]
Other _____	[X]	[]	[]
Air/Water -			
2-pipe fan coil <u>3 UNITS LOCATED IN LABORATORIES</u>	[]	[X]	[]
Unit ventilators <u>9 UNITS IN STAIRWELLS & STORAGE ROOMS</u>	[]	[X]	[]
Terminal Reheat _____	[X]	[]	[]
Single zone <u>3 AIR HANDLER SYSTEMS IN THE BUILDING</u>	[]	[]	[X]
Multi zone <u>3 AIR HANDLER SYSTEMS WITH SEVERAL ZONES</u>	[]	[]	[X]
f. Special Systems:			
Type <u>SEVERAL OF THE LABS. ARE DESIGNED TO BE UNDER NEGA-</u>	[]	[]	[X]
Capacity <u>TIVE PRESSURE TO EXHAUST 100% OF ROOM AIR.</u>	[]	[]	[X]
g. Control Systems:			
Pneu <u>CONTROL OPERATORS FOR AIR HANDLERS</u>	[]	[]	[X]
Electric _____	[X]	[]	[]
Electronic <u>DDC CONTROLS FOR SENSING AND ADJUSTING EQUIP.</u>	[]	[X]	[]
h. Fans:			
Exhaust <u>50 EXHAUST FANS (SEVERAL ARE BIO-HAZARDS)</u>	[]	[X]	[]
Recirculating <u>23 DIFFERENT SUPPLY FANS</u>	[]	[X]	[]

B. COMMENTS:

1. SEVERAL PIECES OF EQUIPMENT HAVE BEEN DISCONNECTED AND ARE NO LONGER USED: COOLING TOWER, CONDENSERS, AIR HANDLERS, ANTENNAS. THIS EQUIPMENT SHOULD BE REMOVED FROM THE ROOF AND MECHANICAL ROOMS.
2. AIR HANDLERS AND DUCT WORK ARE DIRTY AND SHOULD BE CLEANED.

C. COMPONENT RATING: (\$695,034) x (0.63) = \$437,871

Possible Condition Component

Value Value Multiplier Value

ELECTRICAL/SERVICE & DISTRIBUTION

FAC # 180 DATE: 10-1-91 INSPECTOR: RDL

A. SYSTEM DESCRIPTION

(a) Service:

Substation BUCKEYE, CIRCUIT 201/306
Primary Voltage 13,200 KV
Transformer:
 Manufacture Type KVA Secondary Voltages
 GE OIL 750 208Y/120

(b) Distribution System:

Panelboard (type) CIRCUIT BREAKERS
Voltage 208Y/120 VOLTS
Amperage 1200 AMPS PER FEED
Conduit N/A
Conductor N/A
Wire (type) N/A
Armored Cable N/A
Other N/A

(c) Emergency System:

General or (type & capacity) 450 KV DIESEL GENERATOR

B. COMMENTS:

1. THE BUILDING DOES NOT HAVE ANY SPARE CIRCUITS TO ADD ADDITIONAL ELECTRIC LOAD. THE PEAK DEMAND CALCULATED FROM THE DEMAND METER WAS 325 KW THIS IS ABOUT 43% OF CAPACITY.
2. THE EMERGENCY GENERATOR IS AT MAXIMUM CAPACITY. AN ADDITIONAL GENERATOR WILL HAVE TO BE ADDED TO PROVIDE ANY MORE EMERGENCY POWER.

C. COMPONENT RATING: (\$120,496) x (0.60) = \$72,298
 Possible Condition Component
 Value Value Multiplier Value

ELECTRICAL/LIGHTING & POWER

FAC # 180

DATE: 10-1-91

INSPECTOR: RDL

A. SYSTEM DESCRIPTION

a. Lighting (lamp type):

	N/A	Sat	Att
Fluor <u>HAVE BEEN INSTALLED IN MOST LABS & SOME CORRIDORS</u>	[]	[X]	[]
Incand <u>STILL USED IN STORAGE ROOMS, RESTROOMS, & OFFICES</u>	[]	[X]	[]
HID _____	[X]	[]	[]
Other _____	[X]	[]	[]

b. Receptacles & Switches

Type & Capacity <u>SEVERAL LABS HAVE BEEN REMODELED WITH NEW CIRCUIT PANEL BOXES LOCATED AT THE ENTRANCE OF EACH LAB</u>	[]	[X]	[]
--	-----	-----	-----

c. Special:

Baseboard Heat _____	[X]	[]	[]
Lightning Protection <u>ROD LOCATED ON THE ROOF</u>	[]	[X]	[]
Communication & Alarm <u>ANTENNAS LOCATED ON THE ROOF</u>	[]	[]	[X]
Data Systems _____	[X]	[]	[]

B. COMMENTS:

1. THE ANTENNAS ON THE ROOF ARE NOT CURRENTLY BEING USED.
2. THE INSTALLATION OF FLUORESCENT FIXTURES TO REPLACE THE REMAINING OLD INCANDESCENT FIXTURES WOULD REDUCE ELECTRIC CONSUMPTION AND REDUCE TIME SPENT REPLACING BURNED-OUT BULBS.

C. COMPONENT RATING: $(\underline{\$805,925}) \times (\underline{0.71}) = \underline{\$572,207}$

Possible	Condition	Component
Value	Value Multiplier	Value

SAFETY STANDARDS

FAC # 180 DATE: 9-30-91 INSPECTOR: RDL

A. SYSTEM DESCRIPTION

(a) Exits:

Stair Construction:

concrete _____	[X]	[]	[]
steel <u>FRAMES WITH CONCRETE TREADS</u>	[]	[X]	[]
wood _____	[X]	[]	[]

Number of exits THREE STAIRWELLS

(b) Fire Rating:

Construction Type: I X II ___ III ___ IV ___ V ___ VI ___
 Building Height: 33 FEET ft., THREE (3) stories

(c) Extinguishing Systems:

Portable <u>EACH FLOOR HAS SEVERAL IN CORRIDORS</u>	[]	[X]	[]
Standpipe _____	[X]	[]	[]
Hose Cabinets _____	[X]	[]	[]
Sprinklers _____	[X]	[]	[]
Suppression _____	[X]	[]	[]
Other _____	[X]	[]	[]

(d) Detection & Alarm Systems:

Manual Alarm <u>PULL STATIONS LOCATED A STAIRWELLS</u>	[]	[X]	[]
Annunciator _____	[X]	[]	[]
Smoke Detectors _____	[X]	[]	[]

(e) Lighting Systems:

Exit Signs <u>EACH ENTRANCE TO STAIRWELL</u>	[]	[]	[X]
Exit Lighting _____	[X]	[]	[]
Emergency Lighting _____	[X]	[]	[]
Emergency Generator _____	[]	[X]	[]

B. COMMENTS:

1. SEVERAL OF THE LIGHTED EXIT SIGNS WERE BURNED-OUT.
2. EMERGENCY GENERATOR PROVIDES POWER FOR SEVERAL LABORATORIES TO KEEP OPERATING IN CASE OF A POWER OUTAGE. SOME EMERGENCY LIGHTING IS PROVIDED BY THE GENERATOR.

C. COMPONENT RATING: (\$462,774) x (0.63) = \$291,548
 Possible Condition Component
 Value Value Multiplier Value

BUILDING PERIMETER EVALUATION

FAC # 180 DATE: 10-2-91 INSPECTOR: RDL

A. SYSTEM DESCRIPTION

	<u>N/A</u>	<u>Sat</u>	<u>Att</u>
1. Structural Access:			
Driveway <u>SOUTH DRIVE OKAY, WEST DRIVE HAS TWO POT HOLES</u>	[]	[]	[X]
Loading Dock <u>CONCRETE IS DAMAGED ON LOADING DOCK</u>	[]	[]	[X]
Sidewalks			
Front <u>WALK AT DOOR ENTRANCE HAS SETTLED ABOUT 1 1/2"</u>	[]	[]	[X]
Side <u>HAS RAMP FOR HANDICAPPED ACCESS & LOADING DOCK</u>	[]	[X]	[]
Rear <u>GRADE LEVEL ENTRY FOR DELIVERIES</u>	[]	[X]	[]
Steps			
Front _____	[X]	[]	[]
Side <u>HAS STAIRS FROM LECTURE ROOM</u>	[]	[X]	[]
Rear _____	[X]	[]	[]
Handicap Ramp <u>AT SOUTHEAST CORNER OF THE BUILDING</u>	[]	[]	[X]
2. Lawn and Landscaping:			
Lawn <u>VERY DRY</u>	[]	[X]	[]
Shrubs <u>OVER GROWN</u>	[]	[]	[X]
Trees <u>NEED TO BE TRIMMED</u>	[]	[]	[X]
Undesirable Insect _____	[X]	[]	[]
Bedding Material _____	[X]	[]	[]
Watering System _____	[X]	[]	[]
3. General Site Information:			
Signage <u>LOCATED ON COFFEY ROAD</u>	[]	[X]	[]
Address Identification <u>ON SITE SIGN</u>	[]	[X]	[]
Security Lights <u>LAMP POSTS & SPOTS ON THE BUILDING</u>	[]	[X]	[]
Street Lights <u>ON COFFEY & IN THE PARKING LOT AT THE WEST</u>	[]	[X]	[]
Drainage <u>REAR DOORS & STAIRS FROM LOWER LEVEL BACK-UP</u>	[]	[]	[X]
Storm Drains <u>APPEAR ADEQUATE FOR AREA</u>	[]	[X]	[]

B. COMMENTS:

1. FRONT ENTRANCE PAD HAS SETTLED ABOUT 1½". THE CANOPY OVER THE FRONT DOOR DOES NOT HAVE A DRAIN AND DOWNSPOUT. THIS CAUSES WATER TO RUN DOWN THE FRONT OF THE BUILDING AND WASH OUT UNDER THE CONCRETE.

2. REAR DELIVERY DOOR DOES NOT DRAIN AWAY FROM THE BUILDING. THIS AREA IS HOSED DOWN CAUSING WATER TO FREEZE IN THE COLDER MONTHS. THIS SHOULD BE PAVED AND A BETTER DRAIN INSTALLED.

**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 budgetarily 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. Ongoing 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

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

APPENDIX

Building Floor Plans
C-1 Building Space Assignments

Worksheet

CALCULATION OF BUILDING COMPONENT PERCENTAGE OF TOTAL COST

GOSS LABORATORY

#180

DATE: 9-24-91

MEANS SQUARE FOOT COSTS

BUILDING SYSTEM	CLASS	LAB.	OFFICE	SUBJECT	% TOTAL
Foundations	2.85	8.61	2.14	2.85	4.12
Columns and Beams	7.70	4.73	6.33	7.70	11.12
Exterior Walls	1.63	2.94	4.56	4.56	6.59
Ext. Windows & Drs.	2.23	2.28	1.29	2.23	3.22
Roofing	1.47	3.01	0.97	1.47	2.12
Partitions & Doors	4.77	5.87	3.76	5.87	8.48
Wall Finishes	1.46	2.96	1.45	2.96	4.28
Floor Finishes	2.76	3.31	4.28	3.31	4.78
Ceilings & Finish	3.93	3.93	3.93	3.93	5.68
Conveying	0.92	0.00	2.04	0.92	1.33
Plumbing	4.54	12.10	1.19	12.10	17.48
Heating	4.80	4.80	4.80	4.80	6.93
Cooling & Vent.	5.51	5.51	3.70	5.51	7.96
Elec. Ser. & Dist.	0.95	0.56	0.73	0.95	1.37
Lighting & Power	6.39	5.50	5.88	6.39	9.23
Safety Standards	3.67	2.66	0.31	3.67	5.30
TOTAL	55.58	68.77	47.36	69.22	99.99

Worksheet

CALCULATION OF THE CONDITION VALUE MULTIPLIER

GOSS LABORATORY #180

DATE: 9-24-91

	Expect Life	Age	Age Condition Value*	Perf Rate	Performance Condition Value**	Component Condition Value
Foundation	100	30	0.23	1.00	0.67	0.90
Column & Beams	100	30	0.23	1.00	0.67	0.90
Exterior Walls	75	30	0.20	0.75	0.50	0.70
Windows & Doors	60	30	0.17	0.75	0.50	0.67
Roofs	30	30	0.00	0.75	0.50	0.50
Partitions	60	30	0.17	0.95	0.63	0.80
Wall Finishes	15	5	0.22	0.95	0.63	0.85
Floor Finishes	60	30	0.17	0.90	0.60	0.77
Ceiling & Finish	40	30	0.08	0.65	0.43	0.51
Conveying	40	30	0.08	0.70	0.47	0.55
Plumbing	60	30	0.17	0.80	0.53	0.70
Heating	50	30	0.13	0.75	0.50	0.63
Cooling & Vent.	50	30	0.13	0.75	0.50	0.63
Electric Serv.	50	30	0.13	0.70	0.47	0.60
Lighting & Power	40	30	0.08	0.95	0.63	0.71
Safety Standards	25	30	0.00	0.95	0.63	0.63

* The age condition value is column (C-B) x 33.33%.

** The performance condition value is column E x 67.77%.