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PROJECT DESCRIPTION

SURVEY OF FACILITY NEEDS

The project site is located in the basement of Bustad Hall on the Washington State University Pullman campus. Project needs include a combination of mechanical, controls and finish improvements to the existing vivarium facility. Many facility needs exist in the facility which may exceed the available budget. For project success it will be imperative that the design-build team assist the owner in maximizing value for the available budget.

The existing facility has a mechanical interstitial space (duct routing) located above the basement vivarium and below the mechanical room located on first floor above. This interstitial space provides a readily accessible space for mechanical improvements to occur.

Existing facility conditions and needs were surveyed by the predesign team to better understand project specifics.

PREDESIGN PROCESS

As indicated above, a careful review of existing site condition needs was completed by the College of Veterinary Medicine, WSU Facilities and the predesign team. Identified needs were compiled in an outline prioritizing scope needs which has been included in this study. Floor plans were developed based on WSU reference plans. After team review, general needs identified were refined into room data sheets. WSU Facilities and the College of Veterinary Medicine feedback provided have been on a predesign level to understand project scope needs. Further refinement will be required in coordination with the design-build team selected to finalize project scope of work.

GENERAL NEEDS IDENTIFIED

General facility needs identified by the predesign team have been placed in outline form. This outline has been included in this report. Project needs include improvements to the following: 1) vivarium and 2) building mechanical & controls. Currently identified priorities by suite including the need for a possible upgrade of Suite 60 to Biosafety Level 3 (BSL3) have been provided.

PREDESIGN FLOOR PLANS

WSU reference plans have been included to graphically show locations of suites with room numbers. These plans have aided the predesign team in communication of the project findings. The plans shown in this document will require further verification by the design-build team selected.

ROOM DATA SHEETS

Room data sheets have been compiled by the predesign team to transition general facility needs identified to specific facility locations by room number and suite. These needs have been grouped under technology, service, environment, FF&E, casework or finish needs. The included information should provide the design-build team with a thorough understanding of predesign work completed to date and a point to begin the design-build process.
PROJECT LOCATION

1848 Ott Rd, Pullman, WA
GENERAL NEEDS IDENTIFIED
The following general project needs as currently identified was developed after meetings at the McCluskey Building and on site at Bustad Hall. The outline has been updated based on feedback from participant review. It appears that more work may be needed than is available with the current budget making it necessary to modify the final scope of work to the available budget.

Pre-design Team:
1. Architect: Castellaw Kom Architects
2. Controls: Coffman Engineers
3. Mechanical: Coffman Engineers
4. Electrical: Coffman Engineers

Current Budget Anticipated:
1. This project is a consolidation of two originally separate projects.
2. MCR (Minor Capital Renewal) & MCI (Minor Capital Improvements) funding have been provided for this project.
3. Anticipated design & construction budget (verify & coordinate with owner):
   a. Approximately $1,750,000

Current Phasing & Schedule Anticipated:
1. Phase project by scope and available budget (see below).
2. The owner may be able to move out of some areas of work as construction takes place, but this will need to be closely coordinated with owner.
3. The owner may be able to identify ‘swing space’ for temporary relocation of animals, but this too will need to be closely coordinated with owner.
4. Construction Start:
   a. Summer 2020 construction start required. Coordinate with owner.

System Access:
1. Interstitial Space:
   a. Existing interstitial space above the basement level has a concrete deck along with system access.

Summary of Scope of Work:
1. Scope to Budget- Identified needs of the owner are to be scoped to budget with the design-build team selected to complete the project.
2. Scopes of Work- It is the desire of the owner to provide as much project and value for the available project budget. In order to meet this objective, possible scopes of work have been identified. The project scopes currently identified include (see details below):
   a. Scope ‘A’- Suite 41 Improvements (Priority 1)
   b. Scope ‘B’- Suite 50 Improvements (Priority 2)
   c. Scope ‘C’- Suite 40 Improvements
   d. Scope ‘D’- Suite 60 Improvements
   e. Scope ‘E’- Central HVAC System & Maintenance Record Review
3. Smart Building Technologies- The owner is interested in the design-build team providing an evaluation for inclusion of smart building technologies (automated building management) for this part of the building as a part of their scope of work.

Guide for the Care and Use of Laboratory Animals:
1. Facility improvements are to meet the requirements of the “Guide for the Care and Use of Laboratory Animals”.
   b. Chapters 3 – 5 are especially applicable providing expectations for the floors, ceilings, lighting and HVAC needs.
   c. Applicable excerpts from Chapter 5 pertaining to Heating, Ventilation, and Air Conditioning (HVAC) include:
      i. “A properly designed and functioning HVAC system is essential to provide environmental and space pressurization control. Temperature and humidity control minimizes variations due either to changing climatic conditions or to...
differences in the number and kind of animals and equipment in an animal holding space (e.g., a room or cubicle). Pressurization assists in controlling airborne contamination and odors by providing directional airflow between spaces. Areas for quarantine, housing and use of animals exposed to hazardous materials, and housing of nonhuman primates should be kept under relative negative pressure, whereas areas for surgery or clean equipment storage should be kept under relative positive pressure with clean air. HVAC systems should be designed for reliability (including redundancy where applicable), ease of maintenance, and energy conservation; able to meet requirements for animals as discussed in Chapter 3; and flexible and adaptable to the changing types and numbers of animals and equipment maintained during the life of the facility (ASHRAE 2007a). They should be capable of adjustments in and ideally maintain dry-bulb temperatures of ±1°C (±2°F). Relative humidity should generally be maintained within a range of 30-70% throughout the year. Although maintenance of humidification within a limited range over extended periods is extremely difficult, daily fluctuations (recognizing the effects of routine husbandry especially when caring for large animal species) in relative humidity should be minimized; if excursions outside the desired range are infrequent, minimal, and of short duration, they are unlikely to negatively affect animal well-being. Ideally relative humidity should be maintained within ±10% of set point; however, this may not be achievable under some circumstances. Constant-volume systems have been most commonly used in animal facilities, but variable-volume (VAV) systems may offer design and operational advantages, such as allowing ventilation rates to be set in accordance with heat load and other variables. These systems offer considerable advantages with respect to flexibility and energy conservation (see Chapter 3). Previously specified temperature and humidity ranges can be modified to meet special animal needs in circumstances in which all or most of the animal facility is designed exclusively for acclimated species with similar requirements (e.g., when animals are held in a sheltered or outdoor facility). In addition, modifications may need to take into account the microenvironment in some primary enclosures, such as rodent isolator cages, where humidity and temperature may exceed room levels."

ii. “Temperature is best regulated by having thermostatic control for each holding space. Use of zonal control for multiple spaces can result in temperature variations between spaces in the zone because of differences in animal densities and heat gain or loss in ventilation ducts and other surfaces within the zone. Individual space control is generally accomplished by providing each space with a dedicated reheat coil. Valves controlling reheat coils should fail in the closed position; steam coils should be avoided or equipped with a high-temperature cut-off system to prevent space overheating and animal loss with valve failure. Humidification is typically controlled and supplemented on a system or zone basis. Control of humidification in individual holding spaces may be desirable for selected species with reduced tolerance for low relative (e.g., nonhuman primates) or high humidity (e.g., rabbits). Most HVAC systems are designed for average high and low temperatures and humidities experienced in a geographic area within ±5% variation (ASHRAE 2009). Moderate fluctuations in temperature and relative humidity outside suggested ranges are generally well tolerated by most species commonly used in research as long as they are brief and infrequent; holding spaces should be designed to minimize drafts and temperature gradients. Consideration should be given to measures that minimize fluctuations in temperature and relative humidity outside the recommended ranges due to extremes in the external ambient environment. Such measures can include partial redundancy, partial air recirculation, altered ventilation rates, or the use of auxiliary equipment. In the event of an HVAC system or component failure, systems should at the minimum supply facility needs at a reduced level, address the adverse effects of loss of temperature control, and, where necessary, maintain critical pressurization gradients. It is essential that life threatening heat accumulation or loss be prevented during mechanical failure. Temporary needs for ventilation of sheltered or outdoor facilities can usually be met with auxiliary equipment. Air handling system intake locations should avoid entrainment of fumes from vehicles, equipment, and system exhaust. While 100% outside air is typically provided, when recirculated air is used its quality and quantity should be in accord with recommendations in Chapter 3. The type and efficiency of supply and exhaust air treatment should be matched to the quantity and types of contaminants and to the risks they pose. Supply air is usually filtered with 85–95% dust spot efficient filters (ASHRAE 2008). In certain instances, higher efficiency filters (e.g., HEPA) may be beneficial for recirculated supply air and air supplied to or exhausted from specialized areas such as surgical and containment facilities (Kowalski et al. 2002)."

**SCOPE ‘A’- SUITE 41 (Priority 1) IDENTIFIED NEEDS**

1. **General:**
   a. Suite to meet the requirements of the “Guide for the Care and Use of Laboratory Animals”.

2. **Mechanical/Controls:**
   a. Controls-
      i. Controls are in need of update. The following are anticipated as needed improvements:
         1. Replace dated pneumatic controls with new DDC controls at the AHU and zone level.
         2. New space temperature sensors
         3. New discharge air temperature sensors
      ii. Existing controls are Siemens Controls.
   b. HVAC-
i. Existing HVAC system of Suite 41 appears to have constant volume ducting to each room with reheat at each room.

ii. HVAC system is in need of update. The following are anticipated as needed improvements:
   1. Modify system to allow for room or wing shutdown independently of each other during times of decontamination activities. VAV boxes could provide isolation by room (see below). This suite could be shut down at the AHU providing isolation for the entire suite.
   2. Possible alternative scope: install VAV boxes at each zone and convert the existing constant volume AHU to variable volume. This should save energy and would allow for ‘isolation’. This would not provide total isolation due to some air leaks when closed. These would be required on both the supply and exhaust sides.

iii. System to meet requirements of the “Guide for the Care and Use of Laboratory Animals” and must pass AAALAC (laboratory animal air change rate) requirements. Scope of this project involves controls on the constant volume AHU.

c. Temperature Control with Alarming-
   i. Temperature control and alarm needs have been identified as indicated below:
      1. Provide temperature control.
      2. Provide alarming when room goes out of temperature range.
         a. Alarming notification desired to be by email/text.
      3. Temperature to be controlled and vary by room.
      4. Temperature range-
         a. Lower 60s to 79 degrees, +/- 2 degrees (It is anticipated that the project will not change the existing HVAC equipment capacity. These temperatures may or may not be achievable depending on how the system was designed originally; design-build team to provide evaluation & recommendation).

d. Humidification Control
   i. Humidification needs have been identified as being required for the suite.

e. Exhaust Vents-
   i. Existing exhaust vent covers appear to be in need of replacement.

3. Electrical:
   a. Electrical needs have been identified as indicated below:
      i. Remove existing ceiling speakers.
      ii. A few light fixtures are rusting and are in need of replacing.
      iii. Electrical equipment connections as required.

4. Architectural:
   a. Floor Replacement-
      i. Prep & replace floors with epoxy resin floor coating.
         1. MMA and/or urethane products have been identified as potential options. Flooring with flake base for a nonslip texture.
      ii. Prep & replace wall base with epoxy resin floor coating.
         1. MMA and/or urethane products have been identified as potential options. Flooring with flake base for a nonslip texture.
   b. Floor Trench Drain Grating Replacement-
      i. Floor trench drain grates are in need of being replaced with new units throughout suite.
   c. Door Replacement-
      i. Existing steel doors throughout suite are in need of replacement.
      ii. Existing finish hardware replacement is assumed. Verify extent with owner.
      1. New automatic door sweeps required as a part of door hardware work.
      iii. Verify steel door frame condition- repair throughout suite as required.
   d. Wall Finish Needs at Rooms-
      i. The most cost effective solution for new wall finish is anticipated to include the following options:
         1. FRP panels
         2. Epoxy resin wall coating
   e. Ceiling Finish Needs at Rooms-
      i. Patch & epoxy paint.
   f. Misc. Finish Patching Needs-
      i. Patch finishes as required.
      ii. Patch ceilings at removed speakers.
SCOPE ‘B’ - SUITE 50 (Priority 2) IDENTIFIED NEEDS

1. General:
   a. Suite to meet the requirements of the “Guide for the Care and Use of Laboratory Animals”.

2. Mechanical/Controls:
   a. Controls-
      i. Controls are in need of update. The following are anticipated as needed improvements:
         1. Replace dated pneumatic controls with new DDC controls at the AHU and zone level.
         2. New space temperature sensors in the room return duct
         3. New discharge air temperature sensors
      ii. Existing controls are Siemens Controls.
   b. HVAC-
      i. Existing HVAC system of Suite 50 appears to currently have dual duct.
      ii. HVAC system is in need of update. The following is anticipated as needed improvements:
         1. Retrofit existing dual duct (constant air volume) mixing with new ‘kits’ at existing mixing boxes. Two conversion kits would be required (one for cold & one for hot). An alternative approach might be to replace fans at the AHU converting the dual duct to variable air volume.
         2. Isolation during times of decontamination might be provided by installing bubble dampers on the supply. Owner would mechanically seal off vents with plastic and tape. Shutting down an entire wing does not appear practical (since it might starve the AHU fans of air). Design-build team to process specific facility decontamination needs with owner.
      iii. System to meet requirements of the “Guide for the Care and Use of Laboratory Animals” and must pass AAALAC (laboratory animal air change rate) requirements. Scope of this project involves controls on the constant volume AHU. No changes are anticipated for HVAC equipment or balancing of existing HVAC systems.
   c. Temperature Control with Alarming-
      i. Temperature control and alarm needs have been identified as indicated below:
         1. Provide temperature control.
         2. Provide alarming when room goes out of temperature range.
            a. Alarming notification desired to be by email/text.
         3. Temperature to be controlled and vary by room.
         4. Temperature range-
            a. Lower 60s to 79 degrees, +/- 2 degrees (It is anticipated that the project will not change the existing HVAC equipment capacity. These temperatures may or may not be achievable depending on how the system was designed originally; design-build team to provide evaluation & recommendation).
   d. Humidification Control-
      i. Humidification needs have been identified as being required for the suite.
   e. Exhaust Vents-
      i. No exhaust vent work anticipated this suite.
   f. Argus Control System-
      i. Owner would like to keep the existing Argus control system this suite.
      ii. The design-build team is to investigate existing system and needs. Close coordination with owner will be required.

2. Electrical:
   a. Electrical needs have been identified as indicated below:
      i. Remove existing ceiling speakers.
ii. Light fixtures - No work anticipated this suite.
iii. Electrical equipment connections as required.

3. Architectural:
   a. Floor Replacement -
      i. Prep & replace floors with epoxy resin floor coating.
         1. MMA and/or urethane products have been identified as potential options. Flooring with flake base for a nonslip texture.
      ii. Assumed wall base of epoxy resin floor coating would be provided (coordinate with existing FRP panels).
         1. MMA and/or urethane products have been identified as potential options. Flooring with flake base for a nonslip texture.
   b. Floor Trench Drain Grating Removal & Fill -
      i. 5 rooms have existing grates along one wall that have been identified as needing to be removed & filled with concrete patch prior to epoxy resin floor coating being applied.
      ii. New floor drains to be provided.
         1. Modify piping and provide new drains in lieu of trench drains at rooms. Attach to existing piping.
   c. Existing Door Needs -
      i. No door work anticipated this suite except:
         1. New automatic door sweeps required.
   d. Wall Finish Needs at Rooms -
      i. No wall work rooms of this suite anticipated.
      ii. FRP panels have already been installed at room walls.
   e. Ceiling Finish Needs at Rooms -
      i. No ceiling work anticipated at rooms of this suite except:
         1. Patching at removed speakers.
   f. Misc. Finish Patching Needs -
      i. Patch finishes as required.
      ii. Patch ceilings at removed speakers.
   g. Marker Surface -
      i. Provide small magnetic marker boards next to the door of each room.
   h. Signage -
      i. Provide signs as coordinated with owner. Provide sanitizable options for room signage.
   i. Corridor 10 Improvement Needs -
      i. New floor & wall base of epoxy resin coating.
      ii. Painted walls
      iii. Ceiling - replace existing with sanitizable surface/tiles.
   j. Corridor 50 -
      i. No ceiling or wall work anticipated this corridor.
         1. Ceilings and walls of corridor 50 have already been replaced with FRP.

SCOPE 'C' - SUITE 40 IDENTIFIED NEEDS (most flexibility desired this suite)
1. General:
   a. Suite to meet the requirements of the “Guide for the Care and Use of Laboratory Animals”.
2. Mechanical/Controls:
   b. Controls -
      i. Controls are in need of update. The following are anticipated as needed improvements:
         1. Replace dated pneumatic controls with new DDC controls at the AHU and zone level.
         2. New space temperature sensors
         3. New discharge air temperature sensors
      ii. Existing controls are Siemens Controls.
   c. HVAC -
      i. Existing HVAC system of Suite 40 appears to currently have dual duct.
      ii. HVAC system is in need of update. The following is anticipated as needed improvements:
         1. Retrofit existing dual duct (constant air volume) mixing with new ‘kits’ at existing mixing boxes. Two conversion kits would be required (one for cold & one for hot). An alternative approach might be to replace fans at the AHU converting the dual duct to variable air volume.
2. Isolation during times of decontamination might be provided by installing bubble dampers on the supply. Owner would mechanically seal off vents with plastic and tape. Shutting down an entire wing does not appear practical (since it might starve the AHU fans of air). Design-build team to process specific facility decontamination needs with owner. System to meet requirements of the “Guide for the Care and Use of Laboratory Animals” and must pass AAALAC (laboratory animal air change rate) requirements. Scope of this project involves controls on the constant volume AHU.

d. Temperature Control with Alarming-
   i. Temperature control and alarm needs have been identified as indicated below:
      1. Provide temperature control.
      2. Provide alarming when room goes out of temperature range.
         a. Alarming notification desired to be by email/text.
      3. Temperature to be controlled and vary by room.
      4. Temperature range-
         a. Lower 60s to 79 degrees, +/- 2 degrees (It is anticipated that the project will not change the existing HVAC equipment capacity. These temperatures may or may not be achievable depending on how the system was designed originally; design-build team to provide evaluation & recommendation).

e. Humidification Control-
   i. Humidification needs have been identified as being required for the suite.

f. Exhaust Vents-
   i. No exhaust vent work anticipated this suite.

g. Room 40 D Improvements Identified-
   i. Future Mist Catcher-
      1. Provide utility stub outs for future mist catcher addition to cage washer.
      2. Coordinate mist catch specifications with owner.
   ii. Existing Bottle Washer Unit (dishwasher unit)
      1. Modify utility connections as coordinated with owner at existing bottle washer unit (to be removed in future).
   iii. Existing autoclave in Room 40D
      1. Modify utility connections at existing autoclave as coordinated with owner.
      2. Provide utility stub modifications required for future autoclave.
      3. Coordinate future autoclave specifications with owner.

2. Electrical:
   a. Electrical needs have been identified as indicated below:
      i. Remove existing ceiling speakers.
      ii. Light fixtures- No work anticipated this suite.
      iii. Electrical equipment connections as required.

3. Architectural:
   a. Floor Replacement-
      i. Prep & replace floors with epoxy resin floor coating as required.
         1. Extent of floor replacement to be coordinated with owner.
         2. Hallway floors have been replaced, but are stained. Determine solution for hallway floor staining (replace, recoat, or clean-TBD).
         3. MMA and/or urethane products have been identified as potential options. Flooring with flake base for a nonslip texture.
      ii. Assumed wall base of epoxy resin floor coating would be provided where flooring is replaced (coordinate with existing FRP panels).
         1. MMA and/or urethane products have been identified as potential options. Flooring with flake base for a nonslip texture.
   b. Floor Trench Drain Grating Removal & Fill-
      i. Existing grates in rooms to be removed & remaining void filled with concrete patch prior to epoxy resin floor coating being applied.
      ii. New floor drains to be provided.
         1. Modify piping and provide new drains in lieu of trench drains at rooms. Attach to existing piping.
   c. Existing Door Needs-
      ii. No door work anticipated this suite except:
1. **New automatic door sweeps required.**

   d. **Wall Finish Needs at Rooms-**
      i. No wall work rooms of this suite.
      ii. FRP panels have already been installed at room walls.

   e. **Ceiling Finish Needs at Rooms-**
      i. Replace ceiling finish with sanitizable surface
         1. FRP and epoxy resin coating have been identified as potential options.
      ii. Patching at removed speakers.

   f. **Misc. Finish Patching Needs-**
      i. Patch finishes as required.
      ii. Patch ceilings at removed speakers.

   g. **Marker Surface-**
      i. Provide small marker boards next to the door of each room.

   b. **Signage-**
      i. Provide signs as coordinated with owner. Provide sanitizable options for room signage.

   h. **Corridor 10S Improvement Needs-**
      i. New floor & wall base of epoxy resin coating.
      ii. Painted walls
      iii. Ceiling- replace with sanitizable surface/tiles.

   i. **Suite 40P Improvement Needs (40P, 40PA, 40PB & 40PC)-**
      i. No finish improvements anticipated this area.

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**SCOPE ‘D’ - SUITE 60 IDENTIFIED NEEDS (possible BSL3 upgrade)**

1. **General:**
   a. Suite to meet the requirements of the “Guide for the Care and Use of Laboratory Animals”.
   b. Suite 60 to possibly be upgraded to BSL3 (Biosafety Level 3).
      i. Coordinate specific BSL3 needs with owner.
   c. **BSL3 Evaluation-** The owner desires an evaluation of specific facility improvements required to upgrade Suite 60 to BSL3.
   d. **BSL3 Completion-** If the BSL3 improvements cannot be completed within the project scope, the owner still has the desire to complete the design work at this time.

2. **Mechanical/Controls:**
   a. **General-**
      i. Suite 60 to possibly be upgraded to BSL3. Coordinate specific BSL3 needs with owner.
   b. **Controls-**
      i. Controls are in need of update. The following is anticipated as needed improvements:
         1. Replace dated pneumatic controls with new DDC controls at the AHU and zone level
         2. New space temperature sensors
         3. New discharge air temperature sensors
      ii. Existing controls are Siemens Controls.
   c. **HVAC-**
      i. Existing HVAC system of Suite 60 appears to currently have dual duct and is in need of update. The following is anticipated as needed improvements:
         1. Retrofit existing dual duct (constant air volume) mixing with new ‘kits’ at existing mixing boxes. Two conversion kits would be required (one for cold & one for hot). An alternative approach might be to replace fans at the AHU converting the dual duct to variable air volume.
         2. Design-build team to determine if bubble tight damper on supply exists.
            a. Provide estimate to determine cost of bubble tight dampers for supply if they do not exist.
            b. Room isolation during times of decontamination could be provided by a single room at a time installing bubble dampers. Shutting down an entire wing does not appear practical (since it might starve the AHU fans of air).
         3. Update / replace HVAC pressure airflow monitoring and containment system.
         4. The design-build team is to evaluate the existing waste collection and decontamination system.
            a. Determine repairs required for a fully functional system.
            b. Provide cost estimate to repair and update the system.
ii. System to meet requirements of the “Guide for the Care and Use of Laboratory Animals” and must pass AAALAC (laboratory animal air change rate) requirements. Scope of this project involves controls on the constant volume AHU.

d. Temperature Control with Alarming-
i. Temperature control and alarm needs have been identified as indicated below:
   1. Provide temperature control.
   2. Provide alarming when room goes out of temperature range.
      a. Alarming notification desired to be by email/text.
   3. Temperature to be controlled and vary by room.
   4. Temperature range-
      a. Lower 60s to 79 degrees, +/- 2 degrees (It is anticipated that the project will not change the existing HVAC equipment capacity. These temperatures may or may not be achievable depending on how the system was designed originally; design-build team to provide evaluation & recommendation).

e. HEPA Filters-
i. Design-build team to evaluate existing HEPA filter system for this suite relating to BSL3 improvements.
   1. Existing HEPA filters have been identified as needing to be replaced.
   2. Evaluate existing HEPA filter sizes and quantity as being sufficient.

f. Humidification Control-
i. Humidification needs have been identified as being required for the suite.

g. Exhaust Vents-
i. No exhaust vent work anticipated this suite.

h. Corridor 60-
i. Repair drain pipe with leakage from Necropsy area above on first floor.

3. Electrical:
a. Electrical needs have been identified as indicated below:
   i. Remove existing ceiling speakers.
   ii. Light fixtures- No work anticipated this suite.
   iii. Electrical equipment connections as required.

4. Architectural:
a. Floor Replacement-
   i. Prep & replace floors with epoxy resin floor coating.
      1. MMA and/or urethane products have been identified as potential options. Flooring with flake base for a nonslip texture.
   ii. Wall base of epoxy resin floor coating (coordinate with existing FRP panels).
      1. MMA and/or urethane products have been identified as potential options. Flooring with flake base for a nonslip texture.

b. Floor Drains at Rooms-
i. Existing floor drains at rooms to remain.

c. Existing Door Needs-
   i. Prep & paint existing steel doors and frames.
   ii. Existing finish hardware replacement is assumed. Verify extent with owner.
      1. New automatic door sweeps required as a part of door hardware work.

d. Wall Finish Needs at Rooms-
   i. No wall work rooms of this suite.
   ii. FRP panels have already been installed at room walls.

e. Ceiling Finish Needs at Rooms-
   i. FRP panels have already been installed at room ceilings.
   ii. No ceiling work anticipated rooms of this suite except for patching at removed speakers- replace entire panel where patched.

f. Misc. Finish Patching Needs-
   i. Patch finishes as required.
   ii. Patch ceilings at removed speakers.

j. Marker Surface-
   ii. Provide small marker boards next to the door of each room.

k. Signage-
   i. Provide signs as coordinated with owner. Provide sanitizable options for room signage.
SCOPE 'E’- CENTRAL HVAC SYSTEM & MAINTENANCE RECORD REVIEW

1. Evaluate Existing Central HVAC Air Handlers & Cooling (Room 104):
   a. Design team to:
      i. Review existing HVAC air handlers & cooling.
      ii. Provide recommendation for possible system needs.
   b. Many parts of the existing system have replaced over time.
   c. Existing ducting is expected to be adequate without modification.

2. Trouble Calls:
   a. System has had numerous ‘trouble calls.’
   b. Design-build team to review WSU provided ‘trouble calls’ log.
PREDESIGN FLOOR PLANS
SUITE 41
- SCOPE 'A' WORK
- PRIORITY 1
- SEE ENLARGED PLAN

SUITE 40
- SCOPE 'C' WORK
- SEE ENLARGED PLAN

SUITE 50
- SCOPE 'B' WORK
- PRIORITY 2
- SEE ENLARGED PLAN

SUITE 60
- SCOPE 'D' WORK
- SEE ENLARGED PLAN
BUSTAD HALL
FIRST FLOOR PLAN
SCALE: 1" = 40'-0"
HALLWAYS
SEE ROOM DATA SHEET PAGE 23

VIVARIUM ROOMS
SEE ROOM DATA SHEET PAGE 24

SCOPE ‘A’ / PRIORITY 1

BUSTAD HALL
SUITE 41 FLOOR PLAN

SCALE: 1” = 20'-0”
HALLWAYS
SEE ROOM DATA SHEET
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RECEIVING
SEE ROOM DATA SHEET
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VIVARIUM ROOMS
SEE ROOM DATA SHEET
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REFUSE/STORAGE
SEE ROOM DATA SHEET
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CONTROLS OFFICE
SEE ROOM DATA SHEET
PAGE 25

SCOPE ‘E’ / PRIORITY 2

BUSTAD HALL
SUITE 50 FLOOR PLAN

SCALE: 1” = 20’-0”

BASEMENT VIVARIUM BUSTAD HALL
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PREDESIGN ANALYSIS
HVAC SYSTEM & MAINTENANCE RECORD REVIEW
SEE ROOM DATA SHEET PAGE 40

NOTE:
EXISTING HVAC EQUIPMENT NOT SHOWN THIS ROOM
**Room Number(s):** 41 & 41S  
**Space(s) Name:** Hallways- Suite 41  
**Scope/Suite:** Scope ‘A’/ Suite 41  
**Priority:** 1  
**Space Use:** Hallways  
**Use Description:** Hallways servicing vivarium rooms of Suite 41

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**Adjacencies**  
*Primary (Adjoining):* Existing  
*Secondary (Immediate/Close):* Existing  
*Separations (Remote):* Existing

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**Technologies**  
*Data:* Existing  
*Phone:* No  
*Audio Visual:* No  
*Security Cameras:* No  
*Key Card Access:* No  
*Other(s):*

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**Services**  
*HVAC:* Suite 41 appears to be constant volume ducting. Modify system to allow room or wing shut down during times of decontamination activities (shut down entire AHU or alt for VAV boxes).  
*Controls:* Replace pneumatic controls with new DDC controls at the AHU& zone level  
*Plumbing:* Existing  
*Power:* Existing  
*Other(s):* Meet requirements of “Guide for the Care and use of Lab Animals”

---

**Environment**  
*Natural Light:* N/A  
*Artificial Light:* Existing  
*Acoustics:* N/A  
*Desired Temperature Set point:* Existing  
*Allowable Temperature Range (and uniformity +/-):* Existing  
*Humidity Controlled (and uniformity +/-):* Existing  
*Other(s):* Remove ceiling speakers & patch this suite

---

**FF & E**  
*Furnishings:* Existing  
*Fixtures:* Existing  
*Equipment:* Existing  
*Other(s):*

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**Casework**  
*Base cabinets:* N/A  
*Upper cabinets:* N/A  
*Other(s):*

---

**Finishes**  
*Flooring:* Epoxy resin floor  
*Walls Base:* Epoxy resin wall base  
*Ceiling:* Corridor 41-Sanitizable tiles or surface; Corridor 41S-Epoxy Paint  
*Walls:* Epoxy paint  
*Doors:* Replace as required. Provide automatic door sweeps.  
*Other(s):* Meet requirements of “Guide for the Care and use of Lab Animals”

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**Additional Detail**  
*Additional Comments:* Provide: 1) Magnetic marker boards next to hall side of room doors & 2) Rooms signs
Space(s) Name: Vivarium Rooms- Suite 41

Scope/Suite: Scope ‘A’/Suite 41
Priority: 1
Space Use: Vivarium room(s)
Use Description: Rooms used in housing of animals

Adjacencies
Primary (Adjoining): Existing
Secondary (Immediate/Close): Existing
Separations (Remote): Existing

Technologies
Data: Existing
Phone: No
Audio Visual: No
Security Cameras: No
Key Card Access: No
Other(s): Existing

Services
HVAC: Suite 41 appears to be constant volume ducting. Modify system to allow room or wing shutdown during decontamination activities (shut down entire AHU or alt for VAV boxes). Provide alternative scope installing VAV boxes at each zone converting existing constant volume AHU to variable volume. Provide temp sensors. Replace ceiling exhaust covers.
Controls: Replace pneumatic controls with new DDC controls at the AHU & zone level
Plumbing: Floor trench drain grates are in need of being replaced with new units
Power: Existing
Other(s): System to meet requirements of “Guide for the Care and use of Lab Animals” & AAALAC requirements

Environment
Natural Light: N/A
Artificial Light: Existing
Acoustics: Verify with owner need & desire for acoustic control at kennels. Any acoustic material added would need to be sanitizable.
Desired Temperature Setpoint: Lower 60s to 79 degrees F (it is anticipated that the project would not change the existing HVAC equipment capacity. These temps may or may not be achievable depending on how the system was designed originally. Control by room.
Allowable Temperature Range (and uniformity +/-): +/- 2 degrees F. Provide temperature control alarming with email/text notification.
Humidity Controlled (and uniformity +/-): Remove any existing zone humidifiers & provide new humidification
Other(s): Remove ceiling speakers & patch this suite

FF & E
Furnishings: Existing
Fixtures: Existing
Equipment: Existing

Casework
Base cabinets: N/A
Upper cabinets: N/A

Finishes
Flooring: Epoxy Resin floor with nonslip flake finish
Wall Base: Epoxy Resin floor with nonslip flake finish
Ceiling: Patch & epoxy paint as required. Verify need & desire for acoustic control at kennels with owner. If acoustic control provided, sanitizable finish required.
Walls: FRP panels or epoxy resin wall coating as coordinated with owner
Doors: Replace existing steel doors with new. Replace finish hardware as required/desired. Provide new automatic door sweeps. Repair existing steel door frames as required.
Other(s): Meet requirements of “Guide for the Care and use of Lab Animals”

Additional Detail
Additional Comments: Provide: 1) Magnetic marker boards next to hall side of room doors & 2) Rooms signs
**Room Number(s):** 56
**Space(s) Name:** Controls Office- Suite 50
**Scope/Suite:** Scope ‘B’ / Suite 50
**Priority:** 2
**Space Use:** Controls office
**Use Description:** Office housing controls for spaces this floor

---

**Adjacencies**

**Primary (Adjoining):** Existing
**Secondary (Immediate/Close):** Existing
**Separations (Remote):** Existing

---

**Technologies**

**Data:** Existing
**Phone:** Existing
**Audio Visual:** No
**Security Cameras:** No
**Key Card Access:** No
**Other(s):**

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**Services**

**HVAC:** Existing
**Controls:** Replace pneumatic controls with new DDC controls at the AHU & zone level
**Plumbing:** Existing
**Power:** Existing
**Other(s):**

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**Environment**

**Natural Light:** N/A
**Artificial Light:** Existing
**Acoustics:** N/A
**Desired Temperature Setpoint:** Existing
**Allowable Temperature Range (and uniformity +/-):** Existing
**Humidity Controlled (and uniformity +/-):** Existing
**Other(s):** Remove ceiling speakers & patch this suite

---

**FF & E**

**Furnishings:** Existing
**Fixtures:** Existing
**Equipment:** Existing
**Other(s):**

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**Casework**

**Base cabinets:** N/A
**Upper cabinets:** N/A
**Other(s):**

---

**Finishes**

**Flooring:** Existing
**Wall Base:** Existing
**Ceiling:** Existing
**Walls:** Touch up paint at area(s) of work
**Doors:** Existing
**Other(s):**

---

**Additional Detail**

**Additional Comments:** Provide: 1) Magnetic marker boards next to hall side of room doors & 2) Rooms signs
**Room Number(s):** 50 & 10  
**Space(s) Name:** Hallways- Suite 50  
**Scope/Suite:** Scope ‘B’ / Suite 50  
**Priority:** 2  
**Space Use:** Hallways  
**Use Description:** Hallways servicing vivarium rooms of Suite 50

### Adjacencies
- **Primary (Adjoining):** Existing
- **Secondary (Immediate/Cloae):** Existing
- **Separations (Remote):** Existing

### Technologies
- **Data:** Existing  
- **Phone:** No  
- **Audio Visual:** No  
- **Security Cameras:** No  
- **Key Card Access:** No  
- **Other(s):**

### Services
- **HVAC:** Suite 50 appears to be dual duct. Modify system to allow for room or wing shutdown during times of decontamination activities. It appears that a VAV kit conversion at each room and bubble dampers on the supply side & manual seal at vents should make shutdown achievable.  
- **Controls:** Replace pneumatic controls with new DDC controls at the AHU & zone level  
- **Plumbing:** Existing  
- **Power:** Existing  
- **Other(s):** System to meet requirements of “Guide for the Care and use of Lab Animals” & AAALAC requirements

### Environment
- **Natural Light:** N/A  
- **Artificial Light:** Existing  
- **Acoustics:** N/A  
- **Desired Temperature Setpoint:** Existing  
- **Allowable Temperature Range (and uniformity +/-):** Existing  
- **Humidity Controlled (and uniformity +/-):** Existing  
- **Other(s):** Remove ceiling speakers & patch this suite

### FF & E
- **Furnishings:** Existing  
- **Fixtures:** Existing  
- **Equipment:** Existing  
- **Other(s):**

### Casework
- **Base cabinets:** N/A  
- **Upper cabinets:** N/A  
- **Other(s):**

### Finishes
- **Flooring:** Corridor 10- Epoxy resin floor; Corridor 50- Epoxy resin floor  
- **Wall Base:** Corridor 10- Epoxy resin wall base; Corridor 50- Epoxy resin wall base  
- **Ceiling:** Corridor 10- Sanitizable tiles or surface; Corridor 50- No ceiling work (FRP panels exist)  
- **Walls:** Corridor 10- Epoxy paint; Corridor 50- No wall work (FRP panels exist)  
- **Doors:** No door work anticipated this suite except providing automatic door sweeps  
- **Other(s):** Meet requirements of “Guide for the Care and use of Lab Animals”

### Additional Detail
- **Additional Comments:** Provide: 1) Magnetic marker boards next to hall side of room doors & 2) Rooms signs
Room Number(s): 46
Space(s) Name: Receiving- Suite 50
Scope/Suite: Scope ‘B’/ Suite 50
Priority: 2
Space Use: Receiving room
Use Description: Shipping & receiving for the vivarium

Adjacencies
Primary (Adjoining): Existing
Secondary (Immediate/Closely): Existing
Separations (Remote): Existing

Technologies
Data: Existing
Phone: No
Audio Visual: No
Security Cameras: No
Key Card Access: No
Other(s): Argus Control System- Verify condition & system needs. Argus system to be retained.

Services
HVAC: Suite 50 appears to be dual duct. It appears that a VAV kit conversion is possible.
Controls: Replace pneumatic controls with new DDC controls at the AHU & zone level
Plumbing: Existing
Power: Existing
Other(s):

Environment
Natural Light: N/A
Artificial Light: Existing
Acoustics: N/A
Desired Temperature Setpoint: Existing
Allowable Temperature Range (and uniformity +/-): Existing
Humidity Controlled (and uniformity +/-): Existing
Other(s): Remove ceiling speakers and patch this suite

FF & E
Furnishings: Existing
Fixtures: Existing
Equipment: Existing
Other(s):

Casework
Base cabinets: Existing
Upper cabinets: Existing
Other(s):

Finishes
Flooring: Existing
Wall Base: Existing
Ceiling: Existing
Walls: Existing
Doors: No door work this suite anticipated except providing automatic door sweeps
Other(s):

Additional Detail
Additional Comments: Provide: 1) Magnetic marker boards next to hall side of room doors & 2) Rooms signs
## Room Number(s): 50B
### Space(s) Name: Refuse/Storage- Suite 50
- **Scope/Suite:** Scope ‘B’ / Suite 50
- **Priority:** 2
- **Space Use:** Refuse & storage room
- **Use Description:** Storage room service as holding area for refuse from the vivarium

### Adjacencies
- **Primary (Adjoining):** Existing
- **Secondary (Immediate/Close):** Existing
- **Separations (Remote):** Existing

### Technologies
- **Data:** Existing
- **Phone:** No
- **Audio Visual:** No
- **Security Cameras:** No
- **Key Card Access:** No
- **Other(s):**

### Services
- **HVAC:** Suite 50 appears to be dual duct. It appears that a VAV kit conversion is possible.
- **Controls:** Replace pneumatic controls with new DDC controls at the AHU & zone level
- **Plumbing:** Existing
- **Power:** Existing
- **Other(s):**

### Environment
- **Natural Light:** N/A
- **Artificial Light:** Existing
- **Acoustics:** N/A
- **Desired Temperature Setpoint:** Existing
- **Allowable Temperature Range (and uniformity +/-):** Existing
- **Humidity Controlled (and uniformity +/-):** Existing
- **Other(s):** Remove ceiling speakers & patch this suite

### FF & E
- **Furnishings:** Existing
- **Fixtures:** Existing
- **Equipment:** Existing
- **Other(s):**

### Casework
- **Base cabinets:** N/A
- **Upper cabinets:** N/A
- **Others:**

### Finishes
- **Flooring:** Existing
- **Wall Base:** Existing
- **Ceiling:** Existing
- **Walls:** Existing
- **Doors:** No door work this suite anticipated except for automatic door sweeps
- **Other(s):**

### Additional Detail
- **Additional Comments:** Provide: 1) Magnetic marker boards next to hall side of room doors & 2) Rooms signs
**Room Number(s):** 50A, 50C, 50D, 50E, 50F, 50G, 50H, 50J, 50K, 50L, 50M & 50N  
**Space(s) Name:** Vivarium Rooms- Suite 50

**Space Use:** Vivarium room(s)  
**Use Description:** Rooms used in housing of animals

### Adjacencies
- **Primary (Adjoining):** Existing  
- **Secondary (Immediate/Close):** Existing  
- **Separations (Remote):** Existing

### Technologies
- **Data:** Existing  
- **Phone:** No  
- **Audio Visual:** No  
- **Security Cameras:** No  
- **Key Card Access:** No  
- **Other(s):** Argus Control System- Verify condition & system needs. Argus system to be retained.

### Services
- **HVAC:** Suite 50 appears to be dual duct. Modify system to allow room or wing shutdown during decontamination activities. Provide alternative scope for installing VAV boxes at each room converting existing constant volume AHU to variable volume. It appears that a VAV kit conversion at each room and bubble dampers on the supply & manual sealing of vents should make shutdown achievable. Provide temp sensors. Replace ceiling exhaust covers. VAV box kits would provide conversion of system.  
- **Controls:** Replace pneumatic controls with new DDC controls at the AHU & zone level  
- **Plumbing:** Trench floor drains to be filled in with concrete & piping modified for smaller floor drain install  
- **Power:** Existing  
- **Other(s):** System to meet requirements of “Guide for the Care and use of Lab Animals” & AAALAC requirements

### Environment
- **Natural Light:** N/A  
- **Artificial Light:** Existing  
- **Acoustics:** N/A  
- **Desired Temperature Setpoint:** Lower 60s to 79 degrees F (it is anticipated that the project would not change the existing HVAC equipment capacity. These temps may or may not be achievable depending on how the system was designed originally. Control by room.  
- **Allowable Temperature Range (and uniformity +/-):** 2 degrees F. Provide temperature control alarming with email/text notification.  
- **Humidity Controlled (and uniformity +/-):** Remove any existing zone humidifiers & provide new humidification at AHUs  
- **Other(s):** Remove ceiling speakers & patch this suite

### FF & E
- **Furnishings:** Existing  
- **Fixtures:** Existing  
- **Equipment:** Existing

### Casework
- **Base cabinets:** Existing  
- **Upper cabinets:** Existing

### Finishes
- **Flooring:** Epoxy resin with nonslip flake finish  
- **Wall Base:** Epoxy resin with nonslip flake finish  
- **Ceiling:** Existing  
- **Walls:** Existing (FRP panels exist)  
- **Doors:** No door work anticipated this suite except for automatic door sweeps  
- **Other(s):** Meet requirements of “Guide for the Care and use of Lab Animals”

### Additional Detail
- **Additional Comments:** Provide: 1) Magnetic marker boards next to hall side of room doors & 2) Rooms signs
Room Number(s): 40, 30 & 10S
Space(s) Name: Hallways- Suite 40
Scope/Suite: Scope ‘C’ / Suite 40
Space Use: Hallways & Airlock
Use Description: Hallways servicing wash, surgery & vivarium rooms of Suite 40 including airlock between Suites 40 & 41.

Adjacencies
Primary (Adjoining): Existing
Secondary (Immediate/Close): Existing
Separations (Remote): Existing

Technologies
Data: Existing
Phone: No
Audio Visual: No
Security Cameras: No
Key Card Access: No
Other(s):

Services
HVAC: Suite 40 appears to be dual duct. Modify system to allow for room or wing shutdown during times of decontamination activities. It appears that a VAV kit conversion at each room and bubble dampers on the supply & manual sealing of vents should make shutdown achievable.
Controls: Replace pneumatic controls with new DDC controls at the AHU & zone level
Plumbing: Existing
Power: Existing
Other(s): System to meet requirements of “Guide for the Care and use of Lab Animals” & AAALAC requirements

Environment
Natural Light: N/A
Artificial Light: Existing
Acoustics: N/A
Desired Temperature Setpoint: Existing
Allowable Temperature Range (and uniformity +/-): Existing
Humidity Controlled (and uniformity +/-): Existing
Other(s): Remove ceiling speaker & patch this suite

FF & E
Furnishings: Existing
Fixtures: Existing
Equipment: Existing
Other(s):

Casework
Base cabinets: N/A
Upper cabinets: N/A
Other(s):

Finishes
Flooring: Corridor 40- Existing; Airlock 30- Epoxy resin floor; Corridor 10S- Epoxy resin floor
Wall Base: Corridor 40- Existing; Airlock 30- Epoxy resin wall base; Corridor 10S- Epoxy resin wall base
Ceiling: Corridor 40- Existing; Airlock 30- Sanitizable surface or tiles; Corridor 10S- Sanitizable surface or tiles
Walls: Corridor 40- Existing; Airlock 30- Epoxy paint, Corridor 10S- Epoxy paint
Doors: No door work anticipated this suite except for automatic floor sweeps
Other(s): Meet requirements of “Guide for the Care and use of Lab Animals”

Additional Detail
Additional Comments: Provide: 1) Magnetic marker boards next to hall side of room doors & 2) Rooms signs
**Room Number(s): 40M & 40MA**  
**Space(s) Name: Mechanical-Suite 40**  
*Scope/Suite:* Scope 'C' / Suite 40  
*Space Use:* Mechanical Rooms  
*Use Description:* Mechanical & mechanical support room

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**Adjacencies**

*Primary (Adjoining):* Existing  
*Secondary (Immediate/Close):* Existing  
*Separations (Remote):* Existing

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**Technologies**

*Data:* Existing  
*Phone:* No  
*Audio Visual:* No  
*Security Cameras:* No  
*Key Card Access:* No  
*Other(s):*

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**Services**

*HVAC:* Suite 40 appears to be dual duct. It appears that a VAV kit conversion is possible.  
*Controls:* Replace pneumatic controls with new DDC controls at the AHU & zone level  
*Plumbing:* Existing  
*Power:* Existing  
*Other(s):*

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**Environment**

*Natural Light:* N/A  
*Artificial Light:* Existing  
*Acoustics:* N/A  
* Desired Temperature Setpoint:* Existing  
*Allowable Temperature Range (and uniformity +/-):* Existing  
*Humidity Controlled (and uniformity +/-):* Existing  
*Other(s):* Remove ceiling speakers & patch this suite

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**FF & E**

*Furnishings:* Existing  
*Fixtures:* Existing  
*Equipment:* Existing  
*Other(s):*

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**Casework**

*Base cabinets:* N/A  
*Upper cabinets:* N/A  
*Other(s):*

---

**Finishes**

*Flooring:* Existing  
*Wall Base:* Existing  
*Ceiling:* Existing  
*Walls:* Existing  
*Doors:* No door work this anticipated this room.  
*Other(s):*

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**Additional Detail**

*Additional Comments:* Provide: 1) Magnetic marker boards next to hall side of room doors & 2) Rooms signs
PROGRAM SPACE REQUIREMENTS
ROOM DATA SHEET

DATE(S): December 2019
PROJECT # 9283-2017

OWNER REPRESENTATIVES: WSU Facilities, WSU College of Veterinary Medicine
PREDISEIGN TEAM: Castellaw Kom Architects, Coffman Engineering

Room Number(s): 40B
Space(s) Name: Preparation Room- Suite 40
Scope/Suite: Scope ‘C’/ Suite 40
Space Use: Preparation & staging room
Use Description: Preparation & staging of animals & equipment prior to entering wash room with cage & bottle washers (Room 40D)

Adjacencies
Primary (Adjoining): Existing
Secondary (Immediate/Close): Existing
Separations (Remote): Existing

Technologies
Data: Existing
Phone: No
Audio Visual: No
Security Cameras: No
Key Card Access: No
Other(s):

Services
HVAC: Suite 40 appears to be dual duct. Modify system to allow room or wing shutdown during decontamination activities. Provide alternative scope for installing VAV boxes at each zone converting existing constant volume AHU to variable volume. It appears that a VAV kit conversion at each room and bubble dampers on the supply & manual sealing of vents should make shutdown achievable. Provide temp sensors. Replace ceiling exhaust covers. VAV box kits would provide conversion of system.
Controls: Replace pneumatic controls with new DDC controls at the AHU & zone level
Plumbing: Trench floor drains to be filled with concrete & piping modified for smaller floor drain install (verify locations with owner)
Power: Existing
Other(s): System to meet requirements of “Guide for the Care and use of Lab Animals” & AAALAC requirements

Environment
Natural Light: N/A
Artificial Light: Existing
Acoustics: N/A
Desired Temperature Setpoint: Existing
Allowable Temperature Range (and uniformity +/-): Existing
Humidity Controlled (and uniformity +/-): Existing
Other(s): Remove ceiling speakers & patch this suite

FF & E
Furnishings: Existing
Fixtures: Existing
Equipment: Existing
Other(s):

Casework
Base cabinets: Existing
Upper cabinets: Existing
Other(s):

Finishes
Flooring: Epoxy resin floor
Wall Base: Epoxy resin wall base
Ceiling: Epoxy resin or FRP
Walls: Existing (FRP has already been installed at rooms of Suite 40)
Doors: No door work anticipated this suite except for automatic door sweeps
Other(s): Meet requirements of “Guide for the Care and use of Lab Animals”

Additional Detail
Additional Comments: Provide: 1) Magnetic marker boards next to hall side of room doors & 2) Rooms signs
# PROGRAM SPACE REQUIREMENTS

**ROOM DATA SHEET**

Date(s): December 2019

**PREDESIGN PROJECT TEAM:**

Owner Representatives: WSU Facilities, WSU College of Veterinary Medicine

Predesign Team: Castellaw Kom Architects, Coffman Engineering

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**Room Number(s):** 40H, 40K, 40P, 40PA, 40PB, 40PC, 40Q & 40R

**Space(s) Name:** Surgery-Suite 40

**Scope/Suite:** Scope ‘C’ / Suite 40

**Space Use:** Surgery rooms

**Use Description:** Animal surgery rooms & surgery support rooms

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### Adjacencies

- **Primary (Adjoining):** Existing
- **Secondary (Immediate/Close):** Existing
- **Separations (Remote):** Existing

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### Technologies

- **Data:** Existing
- **Phone:** No
- **Audio Visual:** No
- **Security Cameras:** No
- **Key Card Access:** No
- **Other(s):**

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### Services

- **HVAC:** Suite 40 appears to be dual duct. Modify system to allow room or wing shutdown during decontamination activities. Provide alternative scope for installing VAV boxes at each zone converting existing constant volume AHU to variable volume. It appears that a VAV kit conversion at each room and bubble dampers on the supply & manual sealing of vents should make shutdown achievable. Provide temp sensors. Replace ceiling exhaust covers. VAV box kits would provide conversion of system.
- **Controls:** Replace pneumatic controls with new DDC controls at the AHU & zone level
- **Plumbing:** Trench drains to be filled with concrete & piping modified for smaller floor drain install (verify locations with owner)
- **Power:** Existing
- **Other(s):** System to meet requirements of “Guide for the Care and use of Lab Animals” & AAALAC requirements

---

### Environment

- **Natural Light:** N/a
- **Artificial Light:** Existing
- **Acoustics:** N/A
- **Desired Temperature Setpoint:** Existing
- **Allowable Temperature Range (and uniformity +/-):** Existing
- **Humidity Controlled (and uniformity +/-):** Existing
- **Other(s):** Remove ceiling speakers & patch this suite

---

### FF & E

- **Furnishings:** Existing
- **Fixtures:** Existing
- **Equipment:** Existing
- **Other(s):**

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### Casework

- **Base cabinets:** Existing
- **Upper cabinets:** Existing
- **Other(s):**

---

### Finishes

- **Flooring:** Epoxy resin floor. Only some rooms of Suite 40 may require flooring replacement. Verify with owner.
- **Wall Base:** Epoxy resin wall base. Only some rooms of Suite 40 may require wall base replacement. Verify with owner.
- **Ceiling:** 40H & 40K-Sanitizable surface or tiles; 40Q & 40R-FRP; Suite 40P-Existing FRP
- **Walls:** Existing (FRP has already been installed at rooms of Suite 40)
- **Doors:** No door work anticipated this suite except for automatic door sweeps
- **Other(s):** Meet requirements of “Guide for the Care and use of Lab Animals”

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### Additional Detail

**Additional Comments:** Provide: 1) Magnetic marker boards next to hall side of room doors & 2) Rooms signs
**Room Number(s): 40A, 40C, 40E, 40G, 40J & 40L**  
**Space(s) Name: Vivarium Rooms- Suite 40**  
**Scope/Suite:** Scope ‘C’ / Suite 40  
**Space Use:** Vivarium room(s)  
**Use Description:** Rooms used in housing of animals

### Adjacencies
- **Primary (Adjoining):** Existing  
- **Secondary (Immediate/Closet):** Existing  
- **Separations (Remote):** Existing

### Technologies
- **Data:** Existing  
- **Phone:** No  
- **Audio Visual:** No  
- **Security Cameras:** No  
- **Key Card Access:** No  
- **Other(s):**

### Services
- **HVAC:** Suite 40 appears to be dual duct. Modify system to allow room or wing shutdown during decontamination activities. Provide alternative scope for installing VAV boxes at each zone converting existing constant volume AHU to variable volume. It appears that a VAV kit conversion at each room and bubble dampers on the supply & manual sealing of vents should make shutdown achievable. Provide temp sensors. Replace ceiling exhaust covers. VAV box kits would provide conversion of system.  
- **Controls:** Replace pneumatic controls with new DDC controls at the AHU & zone level  
- **Plumbing:** Trench drains to be filled with concrete & piping modified for smaller floor drain install  
- **Power:** Existing  
- **Other(s):** System to meet requirements of “Guide for the Care and use of Lab Animals” & AAALAC requirements

### Environment
- **Natural Light:** N/A  
- **Artificial Light:** Existing  
- **Acoustics:** N/A  
- **Desired Temperature Setpoint:** Lower 60s to 79 degrees F (it is anticipated that the project would not change the existing HVAC equipment capacity. These temps may or may not be achievable depending on how the system was designed originally. Control by room.  
- **Allowable Temperature Range (and uniformity +/-):** +/- 2 degrees F. Provide temperature control alarming with email/text notification.  
- **Humidity Controlled (and uniformity +/-):** Remove existing zone humidifiers & provide new humidification  
- **Other(s):** Remove ceiling speakers & patch this suite.

### FF & E
- **Furnishings:** Existing  
- **Fixtures:** Existing  
- **Equipment:** Existing

### Casework
- **Base cabinets:** Existing  
- **Upper cabinets:** Existing

### Finishes
- **Flooring:** Epoxy resin floor with nonslip flake finish. Only some rooms of Suite 40 may require flooring replacement. Verify with owner.  
- **Wall Base:** Epoxy resin wall base with nonslip flake finish. Only some rooms of Suite 40 may require wall base replacement. Verify with owner.  
- **Ceiling:** Epoxy resin or FRP  
- **Walls:** Existing (FRP has already been installed at rooms of Suite 40)  
- **Doors:** No door work anticipated this suite except for automatic door sweeps  
- **Other(s):** Meet requirements of “Guide for the Care and use of Lab Animals”

### Additional Detail
- **Additional Comments:** Provide: 1) Magnetic marker boards next to hall side of room doors & 2) Rooms signs
**Room Number(s):** 40D  
**Space(s) Name:** Wash Room- Suite 40  
**Scope/Suite:** Scope ‘C’ / Suite 40  
**Space Use:** Wash room  
**Use Description:** Wash and clean animals, bottles and equipment

### Adjacencies
**Primary (Adjoining):** Existing  
**Secondary (Immediate/Close):** Existing  
**Separations (Remote):** Existing

### Technologies
**Data:** Existing  
**Phone:** No  
**Audio Visual:** No  
**Security Cameras:** No  
**Key Card Access:** No  
**Other(s):**

### Services
**HVAC:** Suite 40 appears to be dual duct. Modify system to allow room or wing shutdown during decontamination activities. Provide alternative scope for installing VAV boxes at each zone converting existing constant volume AHU to variable volume. It appears that a VAV kit conversion at each room and bubble dampers on the supply & manual sealing of vents should make shutdown achievable. Provide temp sensors. Replace ceiling exhaust covers. VAV box kits would provide conversion of system.  
**Plumbing:** Existing  
**Power:** Existing  
**Other(s):** System to meet requirements of “Guide for the Care and use of Lab Animals” & AAALAC requirements

### Environment
**Natural Light:** N/A  
**Artificial Light:** Existing  
**Acoustics:** N/A  
**Desired Temperature Setpoint:** Existing  
**Allowable Temperature Range (and uniformity +/-):** Existing  
**Humidity Controlled (and uniformity +/-):** Existing  
**Other(s):** Remove ceiling speakers & patch this suite

### FF & E
**Furnishings:** Existing  
**Fixtures:** Existing  
**Equipment:** Mist catcher desired, replace autoclave, & remove existing bottle washer unit  
**Other(s):** Provide utility stubs for: 1) Future mist catcher, 2) Bottle washer removal & 3) Autoclave replacement

### Casework
**Base cabinets:** Existing  
**Upper cabinets:** Existing  
**Other(s):**

### Finishes
**Flooring:** Epoxy resin floor with nonslip flake finish. Only some rooms of Suite 40 may require flooring replacement. Verify with owner.  
**Wall Base:** Epoxy resin wall base. Only some rooms of Suite 40 may require base replacement. Verify with owner.  
**Ceiling:** Existing (FRP has already been installed)  
**Walls:** Existing (FRP has already been installed). Patch as required.  
**Doors:** No door work anticipated this suite except for automatic door sweeps  
**Other(s):** Meet requirements of “Guide for the Care and use of Lab Animals”

### Additional Detail
**Additional Comments:** Provide: 1) Magnetic marker boards next to hall side of room doors & 2) Rooms signs
Room Number(s): 60A, 60B, 60C, 60D, 60E, 60F, 60G & 60H
Space(s) Name: Animal Isolation - Suite 60
Scope/Suite: Scope 'D' / Suite 60
Space Use: Animal isolation
Use Description: Rooms used to isolate & contain animals. Suite to possibly be upgraded to BSL3 (Biosafety Level 3). Provide BSL3 evaluation, design & costs.

Adjacencies
Primary (Adjoining): Existing
Secondary (Immediate/Close): Existing
Separations (Remote): Existing

Technologies
Data: Existing
Phone: No
Audio Visual: No
Security Cameras: No
Key Card Access: No

Services
HVAC: Suite 60 appears to be dual duct. Modify system to allow room or wing shutdown during decontamination activities. Provide alternative scope for installing VAV boxes at each zone converting existing constant volume AHU to variable volume. It appears that a VAV kit conversion at each room and bubble dampers would make single room shutdown achievable. Update/replace HVAC pressure airflow monitoring & containment system. Verify if bubble tight dampers exist. Provide cost to replace if dampers are not bubble tight.
HEPA Filters: Evaluate HEPA filter system, sizes, locations & quantity.
Controls: Replace pneumatic controls with new DDC controls at the AHU & zone level
Waste Collection & Decontamination System: Determine if system is functional. Provide estimate to update system.
Plumbing: Existing
Power: Existing
Other(s): System to meet requirements of “Guide for the Care and use of Lab Animals” & AAALAC requirements. Suite 60 to possibly be upgraded to BSL3. Coordinate with owner.

Environment
Natural Light: N/A
Artificial Light: Existing
Acoustics: N/A
Desired Temperature Setpoint: Lower 60s to 79 degrees F (it is anticipated that the project would not change the existing HVAC equipment capacity. These temps may or may not be achievable depending on how the system was designed originally. Control by room.
Allowable Temperature Range (and uniformity +/-): +/- 2 degrees F. Provide temperature alarming with email/text notification.
Humidity Controlled (and uniformity +/-): Remove any existing zone humidifiers & provide new humidification.
Other(s): Remove ceiling speakers & patch this suite

FF & E
Furnishings: Existing
Fixtures: Existing
Equipment: Existing

Casework
Base cabinets: N/A
Upper cabinets: N/A

Finishes
Flooring: Epoxy resin with nonslip flake finish
Wall Base: Epoxy resin with nonslip flake finish
Ceiling: Existing (FPR has already been installed), Patch full panels as required.
Walls: Existing (FRP has already been installed)
Doors: Prep & paint existing steel doors & frames. Provide automatic door sweeps.
Other(s): Meet requirements of “Guide for the Care and use of Lab Animals”

Additional Detail
Additional Comments: Provide: 1) Magnetic marker boards next to hall side of room doors & 2) Rooms signs
Program Space Requirements

Room Data Sheet

WASHINGTON STATE UNIVERSITY

Date(s): November 2019

Owner Representatives: WSU Facilities, WSU College of Veterinary Medicine

Predesign Team: Castellaw Kom Architects, Coffman Engineering

Room Number(s): 60AV, 60BV, 60CV, 60DV, 60EV, 60FV, 60GV & 60HV

Space Name: Anterooms- Suite 60

Scope/Suite: Scope 'D' / Suite 60

Space Use: Anterooms

Use Description: Anterooms or vestibules prior to entering animal isolation rooms. Suite to possibly be upgraded to BSL3 (Biosafety Level 3). Provide BSL3 evaluation, design & costs.

Adjacencies

Primary (Adjoining): Existing
Secondary (Immediate/Close): Existing
Separations (Remote): Existing

Technologies

Data: Existing
Phone: No
Audio Visual: No
Security Cameras: No
Key Card Access: No

Services

HVAC: Suite 60 appears to be dual duct. Modify system to allow room or wing shutdown during decontamination activities. Provide alternative scope for installing VAV boxes at each zone converting existing constant volume AHU to variable volume. It appears that a VAV kit conversion at each room and bubble dampers would make single room shutdown achievable. Provide temp sensors. Update/replace HVAC pressure airflow monitoring & containment system. Verify if bubble tight dampers exist. Provide cost to replace if dampers are not bubble tight.

HEPA Filters: Evaluate HEPA filter system, sizes, locations & quantity.

Controls: Provide pneumatic controls to new DDC controls at the AHU & zone level

Waste Collection & Decontamination System: Determine if system is functional. Provide estimate to update system.

Plumbing: Existing

Power: Existing

Other(s): System to meet requirements of “Guide for the Care and use of Lab Animals” & AAALAC requirements. Suite 60 to possibly be upgraded to BSL3. Coordinate with owner.

Environment

Natural Light: N/A

Artificial Light: Existing

Acoustics: N/A

Desired Temperature Setpoint: Lower 60s to 79 degrees F (it is anticipated that the project would not change the existing HVAC equipment capacity. These temps may or may not be achievable depending on how the system was designed originally. Control by room.

Allowable Temperature Range (and uniformity +/-): +/- 2 degrees F. Provide temperature alarming with email/text notification.

Humidity Controlled (and uniformity +/-): Remove any existing zone humidifiers & provide new humidification.

Other(s): Remove ceiling speakers & patch this suite

FF & E

Furnishings: Existing

Fixtures: Existing

Equipment: Existing

Casework

Base cabinets: Existing

Upper cabinets: Existing

Finishes

Flooring: Epoxy resin with nonslip flake finish

Wall Base: Epoxy resin with nonslip flake resin

Ceiling: Existing (FRP has already been installed). Patch full panels as required.

Walls: Existing (FRP has already been replaced)

Doors: Prep & paint existing steel doors & frames. Provide automatic door sweeps.

Other(s): Meet requirements of “Guide for the Care and use of Lab Animals”

Additional Detail

Additional Comments: Provide: 1) Magnetic marker boards next to hall side of room doors & 2) Rooms signs
Room Number(s): 60
Space(s) Name: Hallway- Suite 60
Scope/Suite: Scope ‘D’ / Suite 60
Space Use: Hallway
Use Description: Hallway servicing rooms of Suite 60. Suite to possibly be upgraded to BSL3 (Biosafety Level 3). Provide BSL3 evaluation, design & costs.

Adjacencies
Primary (Adjoining): Existing
Secondary (Immediate/Close): Existing
Separations (Remote): Existing

Technologies
Data: Existing
Phone: No
Audio Visual: No
Security Cameras: No
Key Card Access: No

Services
HVAC: Suite 60 appears to be dual duct. Modify system to allow room or wing shutdown during decontamination activities. Provide alternative scope for installing VAV boxes at each zone converting existing constant volume AHU to variable volume. It appears that a VAV kit conversion at each room and bubble dampers would make single room shutdown achievable. Provide temp sensors.
Update/replace HVAC pressure airflow monitoring & containment system. Verify if bubble tight dampers exist. Provide cost to replace if dampers are not bubble tight.
HEPA Filters: Evaluate HEPA filter system, sizes, locations & quantity.
Controls: Replace pneumatic controls to new DDC controls at the AHU & zone level
Waste Collection & Decontamination System: Determine if system is functional. Provide estimate to update system.
Plumbing: Repair drainage leakage from Necropsy area above on first floor.
Power: Existing
Other(s): System to meet requirements of “Guide for the Care and use of Lab Animals” & AAALAC requirements.
Suite 60 to possibly be upgraded to BSL3. Coordinate with owner.

Environment
Natural Light: N/A
Artificial Light: Existing
Acoustics: N/A
Desired Temperature Setpoint: Existing
Allowable Temperature Range (and uniformity +/-): Existing
Humidity Controlled (and uniformity +/-): Existing
Other(s): Remove ceiling speakers & patch this suite

FF & E
Furnishings: Existing
Fixtures: Existing
Equipment: Existing

Casework
Base cabinets: N/A
Upper cabinets: N/A

Finishes
Flooring: Epoxy resin floor
Wall Base: Epoxy resin wall base
Ceiling: Existing (FRP has already been installed)
Walls: Existing (FRP has already been installed)
Doors: Prep & paint existing steel doors & frames. Provide automatic door sweeps.
Other(s): Meet requirements of “Guide for the Care and use of Lab Animals”

Additional Detail
Additional Comments: Provide: 1) Magnetic marker boards next to hall side of room doors & 2) Rooms signs
**Room Number(s):** 60J  
**Space(s) Name:** Storage- Suite 60

**Scope/Suite:** Scope ‘D’ / Suite 60  
**Space Use:** Storage  
**Use Description:** Small storage room servicing isolation rooms of Suite 60. Suite to possibly be upgraded to BSL3 (Biosafety Level 3). Provide BSL3 evaluation, design & costs.

### Adjacencies
- **Primary (Adjoining):** Existing
- **Secondary (Immediate/Close):** Existing
- **Separations (Remote):** Existing

### Technologies
- **Data:** Existing  
- **Phone:** No  
- **Audio Visual:** No  
- **Security Cameras:** No  
- **Key Card Access:** No

### Services
- **HVAC:** Suite 60 appears to be dual duct. Modify system to allow room or wing shutdown during decontamination activities. Provide alternative scope for installing VAV boxes at each zone converting existing constant volume AHU to variable volume. It appears that a VAV kit conversion at each room and bubble dampers would make single room shutdown achievable. VAV box kits would provide conversion of system. Update/replace HVAC pressure airflow monitoring & containment system. Verify if bubble tight dampers exist. Provide cost to replace if dampers are not bubble tight.  
- **HEPA Filters:** Evaluate HEPA filter system, sizes, locations & quantity.  
- **Controls:** Replace pneumatic controls to new DDC controls at the AHU & zone level  
- **Plumbing:** Existing  
- **Power:** Existing  
- **Other(s):** System to meet requirements of “Guide for the Care and use of Lab Animals” & AAALAC requirements. Suite 60 to possibly be upgraded to BSL3. Coordinate with owner.

### Environment
- **Natural Light:** N/A  
- **Artificial Light:** Existing  
- **Acoustics:** N/A  
- **Desired Temperature Setpoint:** Existing  
- **Allowable Temperature Range (and uniformity +/-):** Existing  
- **Humidity Controlled (and uniformity +/-):** Existing  
- **Other(s):**

### FF & E
- **Furnishings:** Existing  
- **Fixtures:** Existing  
- **Equipment:** Existing

### Casework
- **Base cabinets:** N/A  
- **Upper cabinets:** N/A

### Finishes
- **Flooring:** Epoxy resin floor  
- **Wall Base:** Epoxy resin wall base  
- **Ceiling:** Existing  
- **Walls:** Existing  
- **Doors:** Prep & paint existing steel doors & frames.  
- **Other(s):** Meet requirements of “Guide for the Care and use of Lab Animals”

### Additional Detail
- **Additional Comments:** Provide: 1)Magnetic marker boards next to hall side of room doors & 2) Rooms signs
Room Number(s): 104 & other spaces as applicable
Space(s) Name: HVAC System & Maintenance Record Review- Suites 40, 41, 50 & 60
Scope/Suite: Scope ‘E’
Space Use: HVAC
Use Description: Review HVAC system along with maintenance record review supporting suites included as a part of the scope of work. Provide evaluation of system condition and needs for owner review.

Adjacencies
Primary (Adjoining): Existing
Secondary (Immediate/Close): Existing
Separations (Remote): Existing

Technologies
Data: Existing
Phone: No
Audio Visual: No
Other(s):

Services
HVAC: Review existing HVAC systems serving the project area with improvement recommendations for system needs. Trouble calls are frequent at this building. Provide system improvements to meet project needs.
Maintenance Records: Review maintenance records due to frequent trouble calls to building
Plumbing: Existing
Power: Existing
Other(s):

Environment
Natural Light: N/A
Artificial Light: Existing
Acoustics: N/A
Other(s):

FF & E
Furnishings: Existing
Fixtures: Existing
Equipment: Existing
Other(s):

Casework
Base cabinets: N/A
Upper cabinets: N/A
Other(s):

Finishes
Flooring: Existing
Ceiling: Existing
Walls: Existing
Doors: Existing
Other(s):

Additional Detail
Additional Comments: Moisture penetration into space has been identified as a concern. This may be related to existing berming.