American Recovery and Reinvestment Act (ARRA or Recovery Act) of 2009

EFR
April 13, 2009

American Recovery and Reinvestment Act (ARRA)

- Awards are expected to create and/or maintain American jobs
- Considerations for impact on the environment is important in all phases of design and construction
- Special Terms and Conditions
  - Recipient Reporting Requirements

(ARRA or Recovery Act) of 2009

- Provides $1 billion for grants and contracts to construct, renovate or repair non-federal research facilities
- Two related Request for Applications (RFAs) have been released in response to the Recovery Act
  - RFA-RR-09-007 (supports core facilities improvement projects; G20 mechanism)
  - RFA-RR-09-008 (supports construction, renovation and repair improvement projects; C06 mechanism)

Comparison of G20 and C06 RFAs

Item	RFA-RR-09-007 (Core facilities)	RFA-RR-09-008 (Construction etc.)
Mechanism	G20	C06
Budget/application (direct cost only)	$1 - 10 Million	$2 - 15 Million
Number of applications/per institution*	no more than 2	no more than 3
Type of equipment allowed	general purpose & fixed equipment	fixed equipment only
Equipment maximum	up to $100K for specialized equipment	Not Applicable

*An institution is defined as an organization with a separate Institutional Profile File (IPF) code identifier.

Comparison of G20 and C06 RFAs (cont'd)

Item	RFA-RR-09-007 (Core facilities)	RFA-RR-09-008 (Construction, etc.)
New construction, and completion of shell space	No	Yes
Receipt date(s)	September 17, 2009	May 6, 2009 ($2 – 5 M) June 17, 2009 ($10 – 15 M) July 17, 2009 ($5 – 10 M)
Award start dates	July 2010	December 2009 & April 2010
Green technology & design approaches	Yes	Yes
Creation/retention of American jobs	Yes	Yes

Tips and Information

- No multiple PIs allowed
- Matching – NO MATCH REQUIRED!!!
- Operation of Facility
  - Funds available to operate facility for entire period of effective use for biomedical research (i.e., 10 years)
- Grants.gov submission required
    - Deadline for receipt of application is 5:00 p.m. local time of the institution
    - Note various receipt dates based on costs!

Helpful Hints in Preparing a G20 or C06 Application

- Read the RFA carefully.
- Make a checklist from the RFA review criteria and address each item on the checklist.
- Contact the office of the vice president for research or the sponsored program office of your institution to determine who has experience writing construction or renovation applications; recruit those individuals identified for the application team.
- Assemble a team of scientists (and veterinarians for animal facility improvement projects only), architects and engineers, administrators and grant writers; meet regularly and keep track of progress; set and keep timeline progress goals.

Helpful Hints in Preparing a G20 & C06 Application (cont'd)

- Scientists (and veterinarians for animal facility improvement projects only) should write the scientific section of the project narrative of the application.
- Architects, engineers and facility staff should write the design section of the project narrative and produce the improvement project line drawings.
- Grant writers must merge the above two sections into a unified and cohesive document that is clear and easy to read.
- The scientific writing team should read the architectural and engineering team's section to ensure that it will be clearly understood by a scientist (and veterinarian if applicable); each application will be reviewed by an architect or engineer, veterinarian (if applicable) and scientist.

Application and Pre-Award

- Eligibility
- Executive Order 12372 (Single Point of Contact or SPOC)
  - Applies only to C06
  - SPOCs must receive copy of application no later than the date it is submitted to the Center for Scientific Review.

Application and Pre-Award

- NIH Grants Policy Statement
- National Environmental Policy Act of 1969 (NEPA)
  - Environmental Impact Statement
  - Environmental Assessment
- National Historic Preservation Act . . . of 1960
- Eligibility of PI/PD
- Insurance Requirements
- Title to Site/Lease of Site
- Public Disclosure

Grants Policy

- Unallowable costs
  - Bonus payments to contractors
  - Construction of shell space
  - F&A costs
  - Land acquisition
  - Offsite improvements

- Reference the NIH Grants Policy Statement:
  - http://odoerdb2.od.nih.gov/gmac/nihgps_2003/index.htm

Questions and Answers

- Q: Is the cost of elevators, and heating, ventilation, and air conditioning (HVAC) systems allowable in G20 and C06 projects?

  A: Yes. Prorate these costs for new construction and renovation projects based on the proportional square footage assigned to the C06 project versus the total space served.

- Q: Are these RFAs targeted for research intensive institutions?

  A: No. If small and developing institutions or organizations are the recipient of Public Health Service (PHS)-funded biomedical or behavioral research, such organizations are eligible to submit applications in response to these RFAs

- Q: Is a for-profit organization that is the recipient of PHS-funded Small Business Innovation Research (SBIR) awards eligible to submit applications in response to these RFAs?

  A: No.

Questions and Answers (cont'd)

- Q: Is it allowable to purchase or upgrade fixed research equipment such as synchrotrons, magnetic resonance imagers, nuclear magnet resonance spectrometers with C06 Recovery Act funds?

  A: No. Research equipment purchases are not allowable through the C06 RFA. However, magnetic resonance imagers and nuclear magnetic resonance spectrometers are allowable through the High-End Instrumentation Grant Program. (See: http://grants.nih.gov/grants/guide/pa-files/PAR-09-118.html)

- Q: May Recovery Act funds be used to construct shell space?

  A: No. All space constructed or renovated must result in usable biomedical or behavioral research facilities

Review Criteria: Scoring Individual Criteria

The individual critiques #1 – 5 receive numerical scores using the new 1 – 9 scoring scale:

1. Significance and Need
2. Project Management and Institutional Commitment
3. Design Considerations
    - Engineering Criteria
    - Architectural Criteria
    - Line Drawings
    - Timeline
4. Equipment
5. Environment

Pre-award Process

- Facility design elements that should be included in a construction application:
  - For new construction, explain how the proposed site was selected. For renovations, provide line drawings that show the location within the building and proximity to other elements.
  - Verify that construction and/or renovations will be viable at the proposed location.
  - For renovation, describe existing conditions including size, age, physical description, infrastructure, structural attributes and elements to be retained.
  - If the project is intended to mitigate deteriorating conditions, identify existing deficiencies.
  - If the project area will be supported by existing infrastructure, demonstrate that there is sufficient capacity and dependability in existing systems.

Pre-award Process (cont'd)

- If hazardous materials are known or suspected in the proposed site, verify that a Hazmat survey is completed, or if further investigation is needed.
- Provide line drawings (schematic floor plans), which will be discussed later.
- It is useful to show larger items of moveable equipment. Clearly delineate which items are to be provided through the application versus existing items.
- If the project area is too large to provide the detail needed, provide additional up-scaled plans as required.
- Line drawings should show areas proposed for utility rooms, penthouses or roof areas supporting project functions.

Pre-award Process (cont'd)

- Provide functional diagrams identifying how the proposed layout will work relative to zoning for different uses, circulation of personnel, material and waste, and location of bio-containment and security barrier.
- Show the location of sinks, eyewashes, drench showers, flammable storage cabinets, and other safety features. Identify code-compliant egress pathways. Be sure to include sufficient clearances to provide clear egress pathways out of labs, equipment rooms and other spaces that may be densely packed with equipment and furnishings.
- Include room names that illustrate the function of each space as well as nominal room dimensions and area.

Pre-award Process (cont'd)

- Provide a schedule that clearly itemizes equipment procured and/or installed through the application. Vendor quotes are required for major items of fixed equipment to be funded through the application.
- Identify biological, radiological and chemical risks/hazards that will be present, and the safety/biosafety features that will be incorporated in the design to manage risks.
- Provide a project cost estimate in the required format as well as a more detailed construction cost estimate. A tabular chart showing cost per room is helpful so that the impact of adding or removing areas can be evaluated.
- Provide a proposed project development schedule.

Pre-award Process (cont'd)

- Provide a basis of design describing the type of construction, finishes and systems proposed. Include diagrams as needed to describe system components, redundancies, etc. Room data sheets may also be incorporated to help describe the variable design parameters for each type of area. The following areas of description are recommended (see RFA Design Considerations section for additional information):
  - Architecture (including safety and biosafety features)
  - Description of HVAC systems & controls, plumbing, electrical, special systems (i.e., security, etc.)
  - Commissioning
  - Sustainability (see list in RFA)

Pre-award Process (cont'd)

- All applications including BSL-2 and BSL-3 facilities should conduct a Biosafety Risk Assessment. Describe the technologies, procedures and practices for preventing unintentional (i.e., accidental) release of pathogens or toxins.
- All applications including BSL-3 facilities should conduct a Biosecurity Risk Assessment. Describe the technologies, procedures and practices for preventing unintentional release of pathogens or toxins (i.e., unauthorized access, accidental release, loss/theft, diversion, misuse, etc.).
- Architects and engineers shall consult with the Division of Physical Security Management at NIH for related design criteria. Refer to latest NIH Design Requirement Manual for more information. (URLs are in RFAs.)

Pre-award Process (cont'd)

- Ensure that data is consistent throughout the application (such as tables, text, plans, etc.)
- Show scale in all line drawings; graphic scales are recommended.
- Provide tabulation of net and gross space distribution per room with subtotals for functional areas and a grand total for the project.

Construction Timeline Schedule

- Do not show a schedule that exceeds grant time limitations.
- Incorporate the NIH review period for documents described in the RFA.
- Do not show a construction start date prior to the final design approval.
- Simple, graphic schedules are ideal.
- Indicate phasing and logistics where appropriate.

Examples of Plan Development Checklist

For General Planning:

- Entry points are indicated.
- Egress paths are shown and an adequate number of exits are indicated (typically 2).
- Wheelchair access is addressed.
- Elevator access is indicated.
- Elevator types (passenger, service, freight) are indicated.
- American Disabilities Act (ADA) required clearances are provided.
- Adjacent buildings, uses and connections are shown.
- All rooms are labeled.

Examples of Plan Development Checklist (cont'd)

For Laboratory Research Facilities:

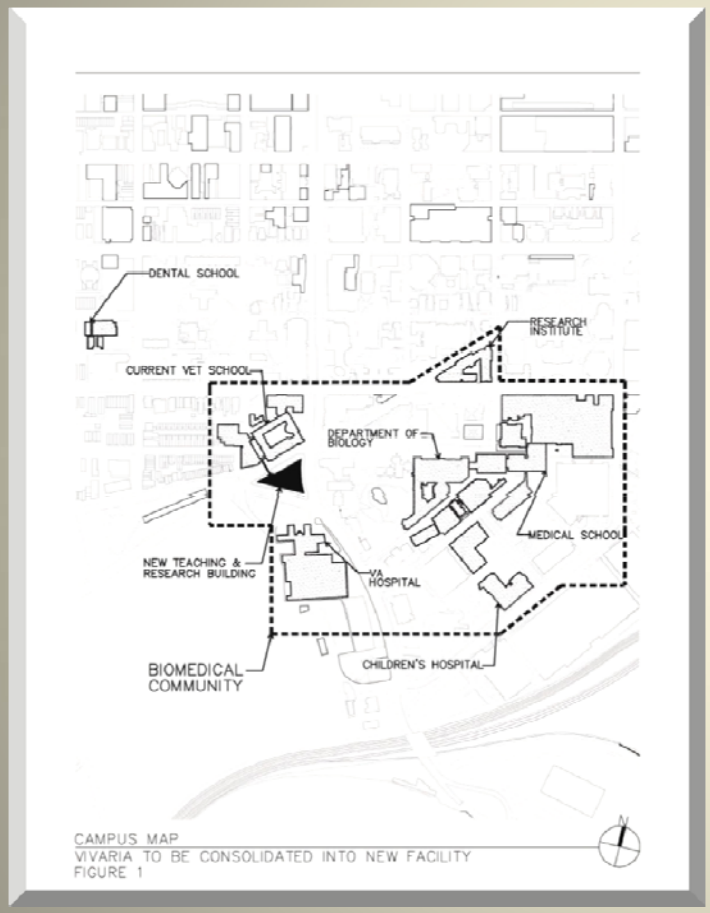
- Personnel access to the facility is identified.
- Service access to the facility is identified.
- Major access paths to labs and other related functions are indicated.
- Security points are indicated.
- Doors/corridors are adequate in width for the movement of large equipment.
- Benches and counters are indicated.

Examples of Plan Development Checklist (cont'd)

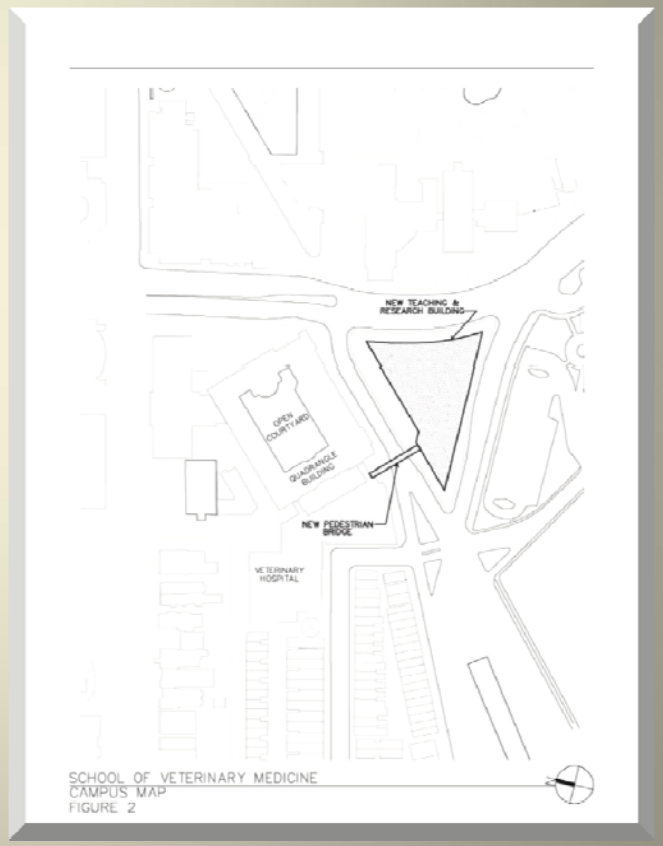
For Laboratory Research Facilities:

- Biosafety cabinets are identified (such as "BSC").
- Fume hoods and biosafety cabinets are located away from lab egress doors and primary travel paths.
- Sinks and emergency showers are indicated, if required.
- Major equipment locations are indicated.
- Fume hoods are shown and identified (such as "FH")
- Refer to local and national codes and standards, and NIH requirements.
- Identify and address unusual circumstances (such as, flooding, earthquakes, etc.)

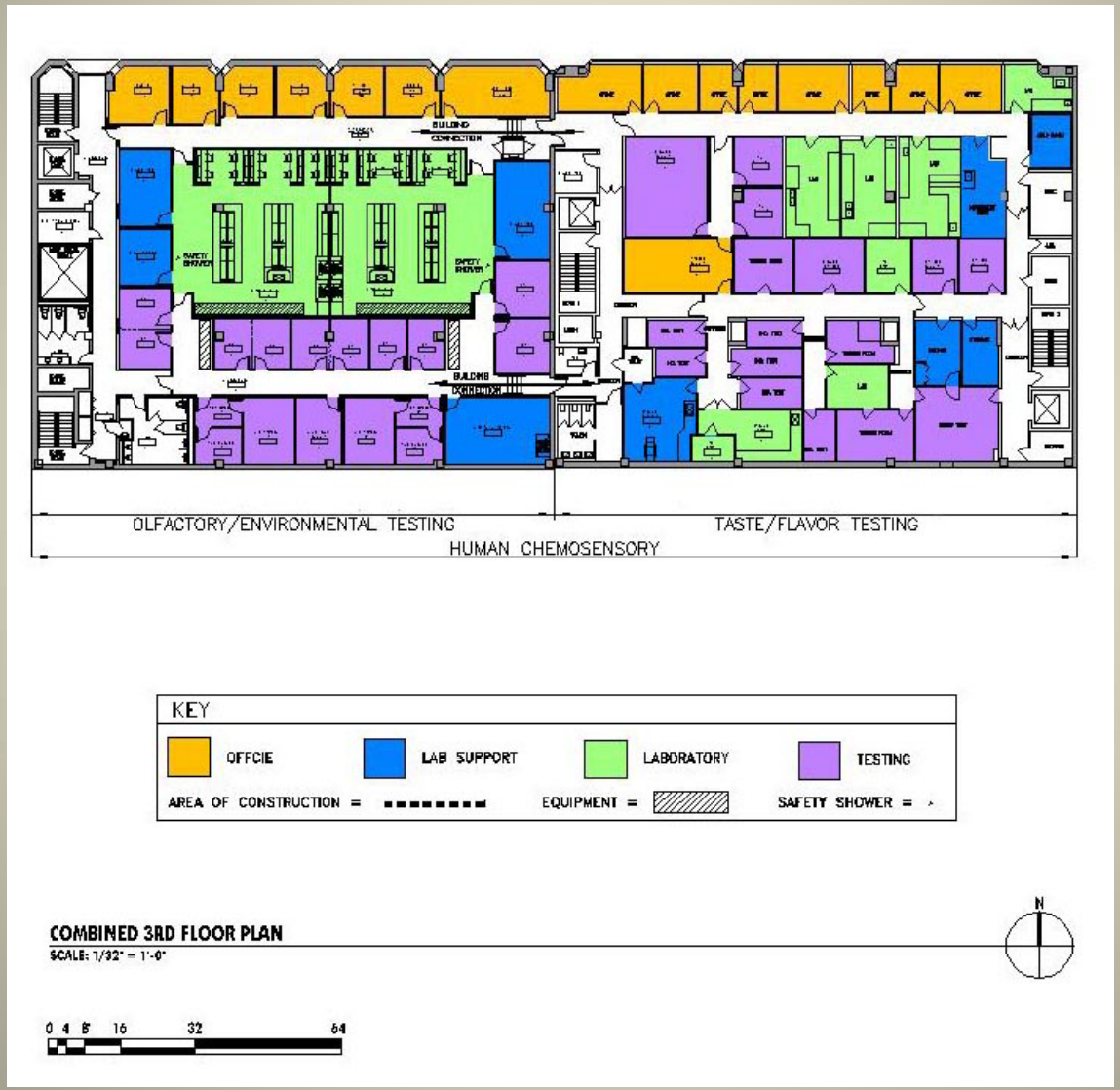
Sample Design Drawings



Location and adjacency plan

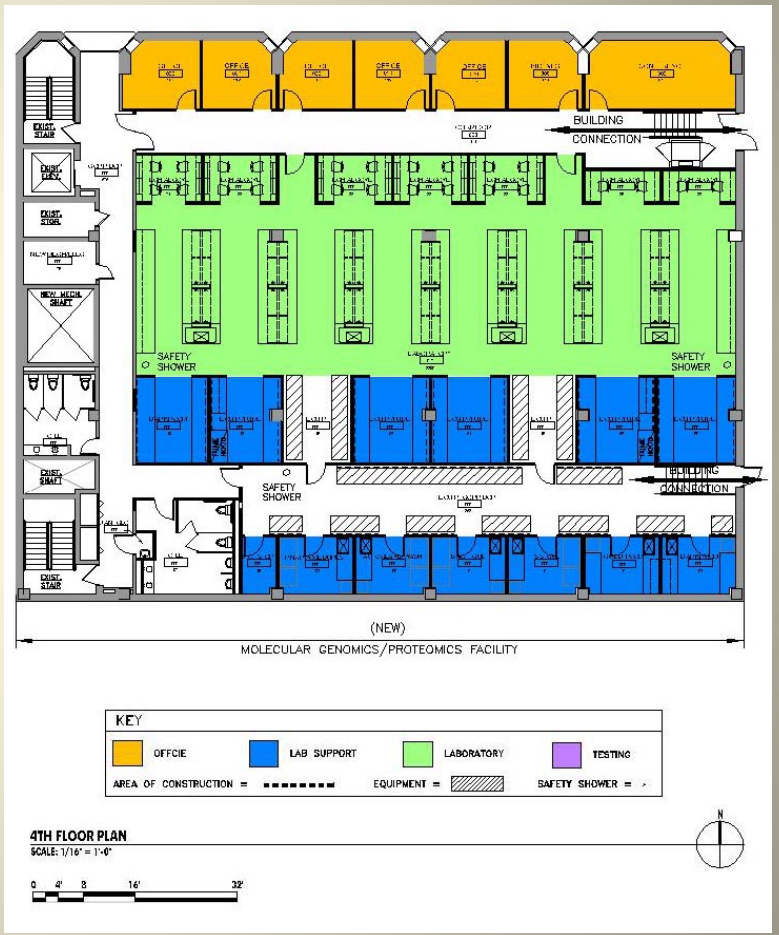


Overall Adjacency Plan (color optional)



Floor Plans

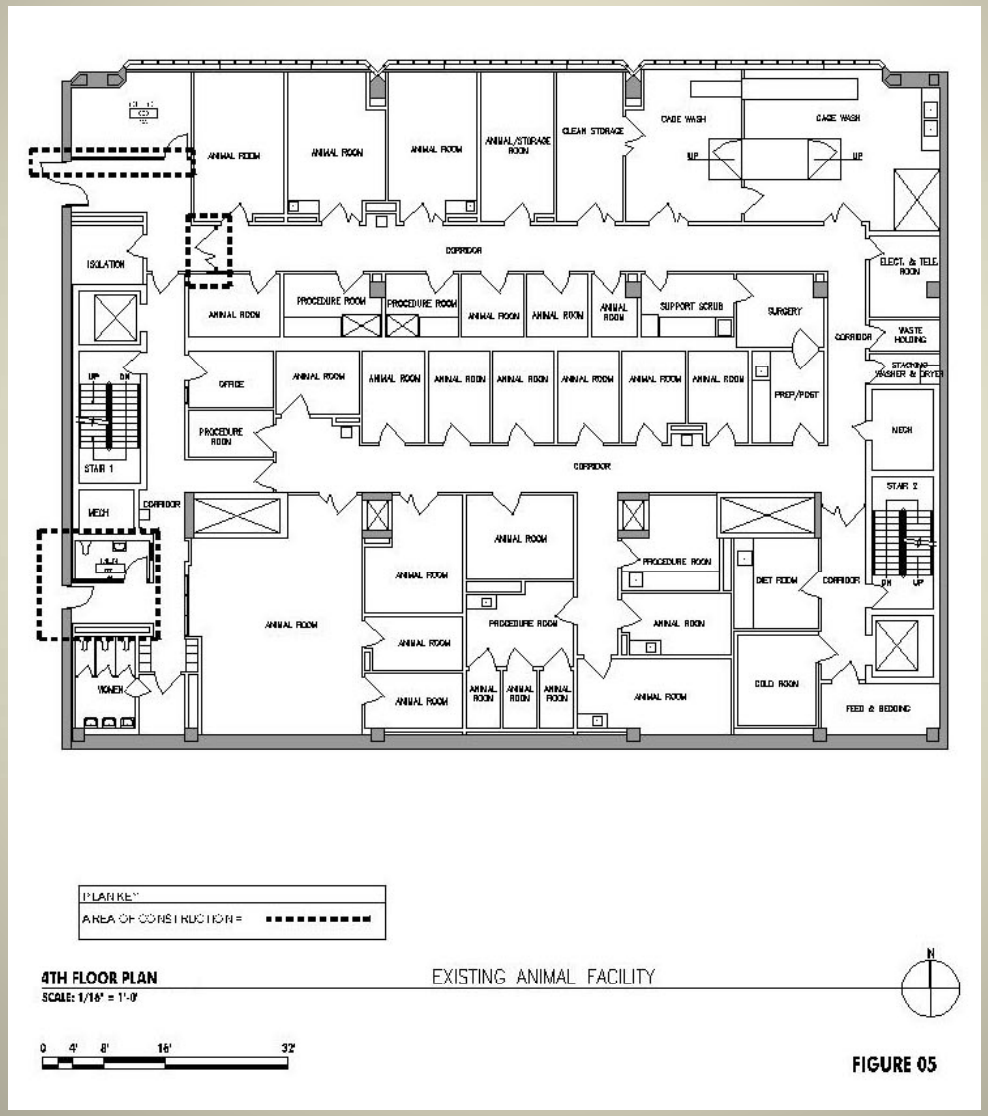

BUILDING CONNECTION
SAFETY SHOWER
SAFETY SHOWER
BUILDING CONNECTION
OLFACTORY/ENVIRONMENTAL TESTING
KEY
OFFCIE
LAB SUPPORT
LABORATORY
TESTING
AREA OF CONSTRUCTION =
EQUIPMENT =
SAFETY SHOWER =
3RD FLOOR PLAN
SCALE: 1/16" = 1'-0"
0 4' 8' 16' 32'


BUILDING CONNECTION
SAFETY SHOWER
SAFETY SHOWER
SAFETY SHOWER
BUILDING CONNECTION
(NEW)
MOLECULAR GENOMICS/PROTEOMICS FACILITY
KEY
OFFCIE
LAB SUPPORT
LABORATORY
TESTING
AREA OF CONSTRUCTION =
EQUIPMENT =
SAFETY SHOWER =
4TH FLOOR PLAN
SCALE: 1/16" = 1'-0"
0 4' 8' 16' 32'

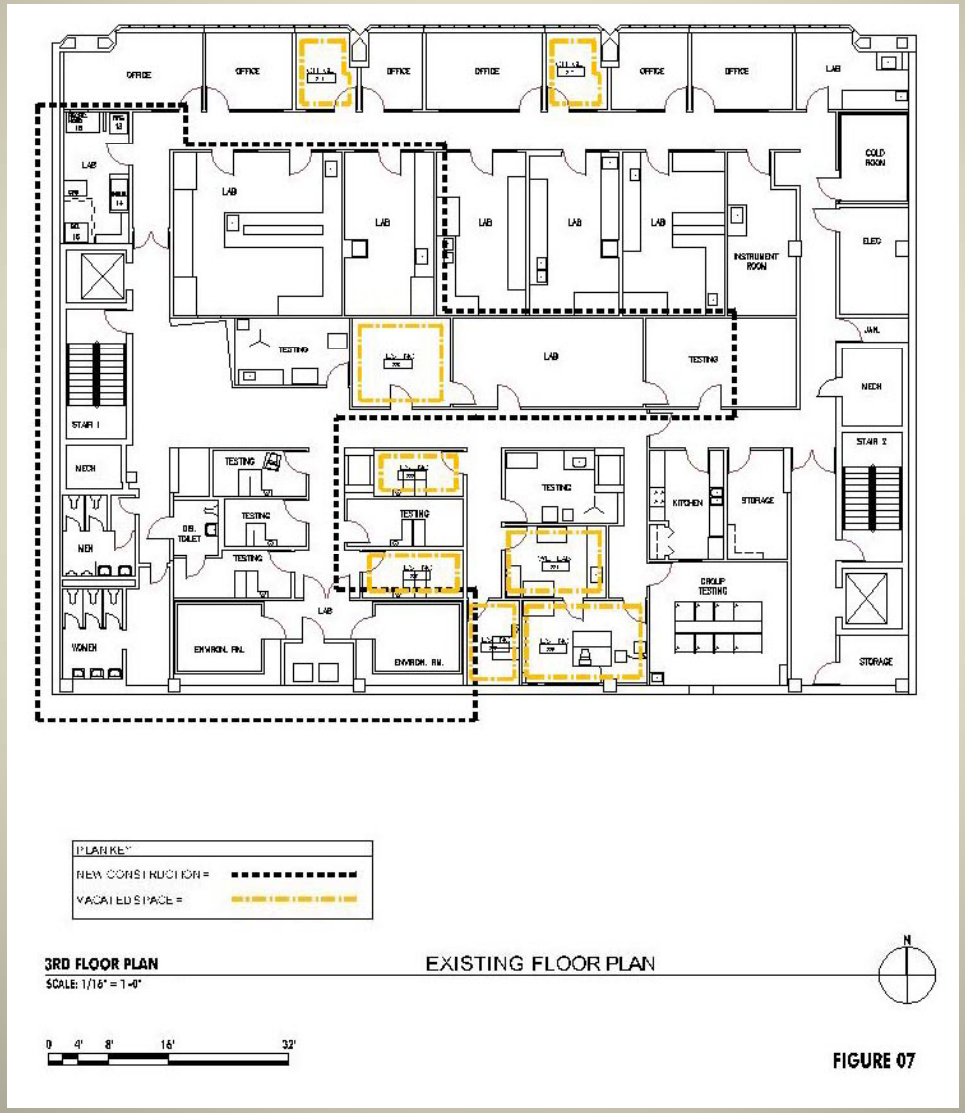
Floor Plans


BUILDING CONNECTION
SAFETY SHOWER
SAFETY SHOWER
BUILDING CONNECTION
OLFACTORY/ENVIRONMENTAL TESTING
KEY
OFFCIE
LAB SUPPORT
LABORATORY
TESTING
AREA OF CONSTRUCTION =
EQUIPMENT =
SAFETY SHOWER =
3RD FLOOR PLAN
SCALE: 1/16" = 1'-0"
0 4' 8' 16' 32'
N
BUILDING CONNECTION
SAFETY SHOWER
SAFETY SHOWER
SAFETY SHOWER
BUILDING CONNECTION
(NEW)
MOLECULAR GENOMICS/PROTEOMICS FACILITY
KEY
OFFCIE
LAB SUPPORT
LABORATORY
TESTING
AREA OF CONSTRUCTION =
EQUIPMENT =
SAFETY SHOWER =
4TH FLOOR PLAN
SCALE: 1/16" = 1'-0"
0 4' 8' 16' 32'
N

Partial Renovation Plan



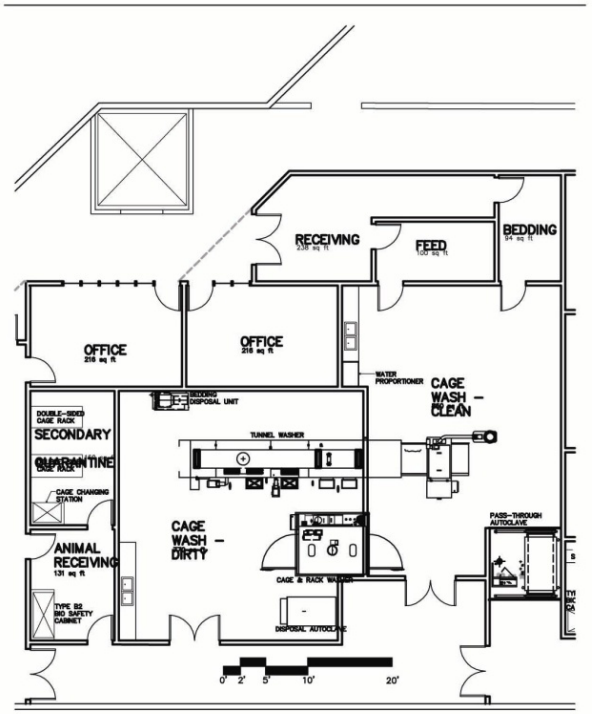
Partial Renovation Plan



Enlarged Plan

ENLARGED HOLDING SUITE PLAN

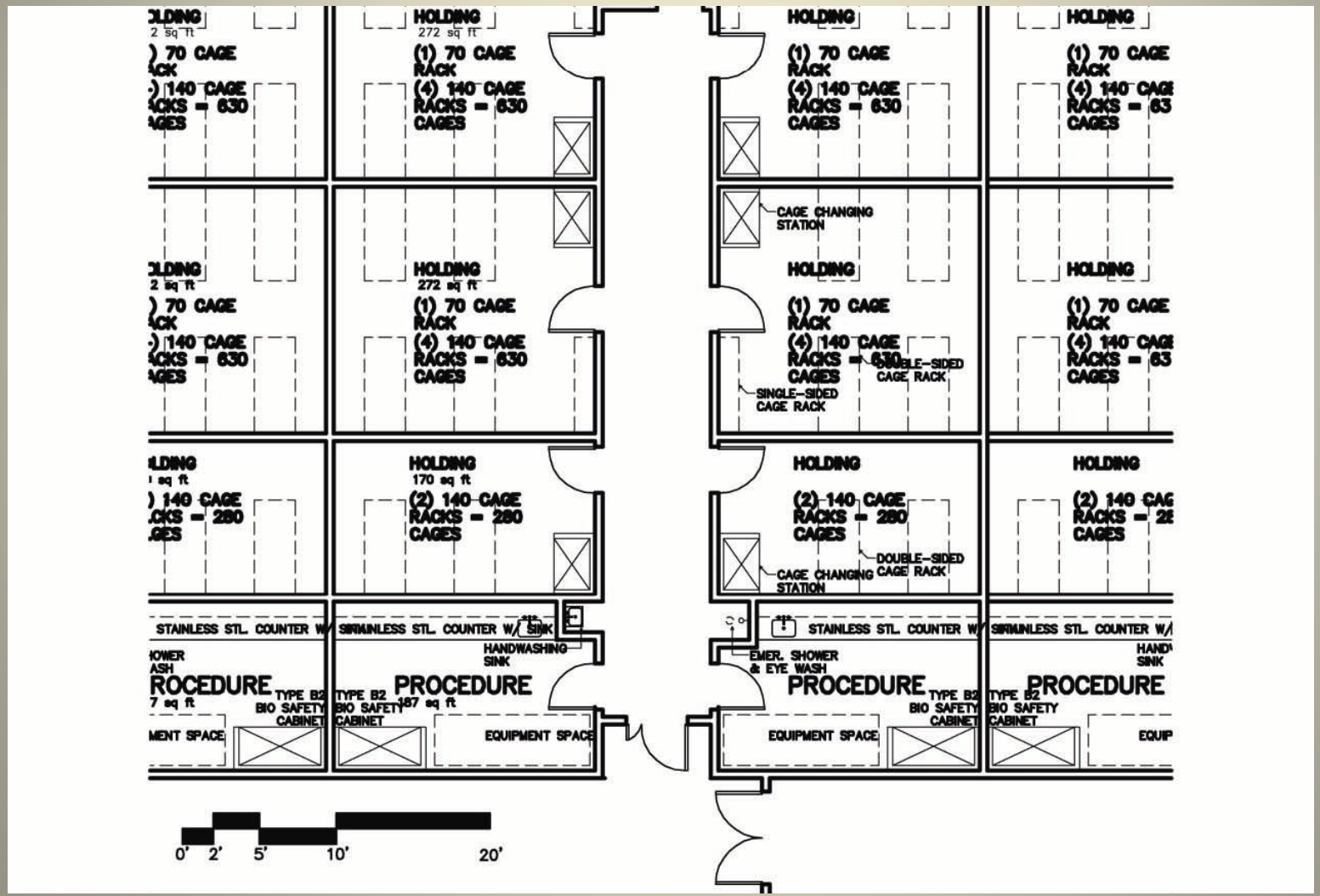
FIGURE 7



ENLARGED CAGE/PROCEDURE ROOM PLAN

FIGURE 8

Enlarged Plan



Post-Award Sequence of Events

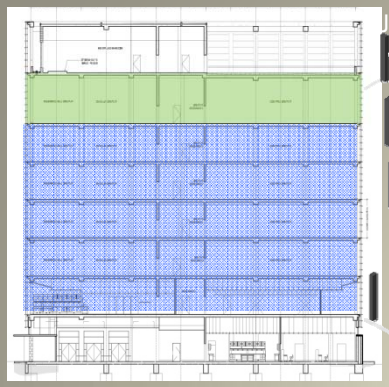
- Receipt of Notice of Award (NoA)
  - Budget and Project Period dates
  - Signature, acceptance and return of NoA to NCRR
  - NCRR acknowledgment and information letter

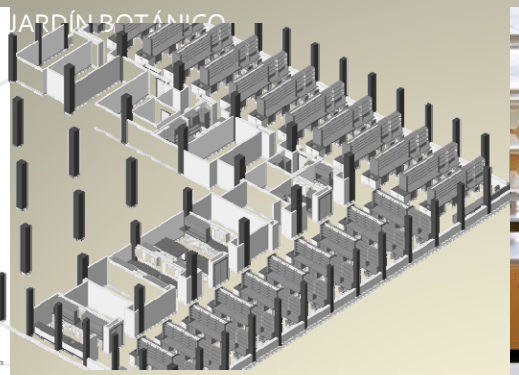
Monitoring of Terms and Conditions of Award

- Notice of Federal Interest (NFI)
- Restrictions on Funds
  - Exception for Architectural and Design Fees
- Estimated Milestone Dates
- Closeout Requirements
- Appropriation Limitation on Expenditure of Funds
  - “5-Year Rule” 31 USC 1552
  - Contact NCRR staff immediately if timelines cannot be met
- Expanded Authorities
  - Do not apply

Post-Grant Activities

- Monitoring Facility Usage (10-year use requirement)
- Deviation of Design
- Contingency Fund
- Change in Facility Usage
- Transfer of Remaining Facility Usage
- Final Inspection
- Date of Occupancy
- Special Reporting Requirements Under the ARRA





PROJECT: **MOLECULAR SCIENCE FIT OUT OF 3RD, 4TH, 5TH AND 6TH FLOORS**

LOCATION: **MOLECULAR SCIENCE BUILDING**
PR #1, RIO PIEDRAS (UNDER CONSTRUCTION)

DEPARTMENT/SCHOOL: **MEDICAL SCIENCE CAMPUS AND RIO PIEDRAS CAMPUS JOINT VENTURE**

CONSTRUCTION COST: **4.9 M PER FLOOR**

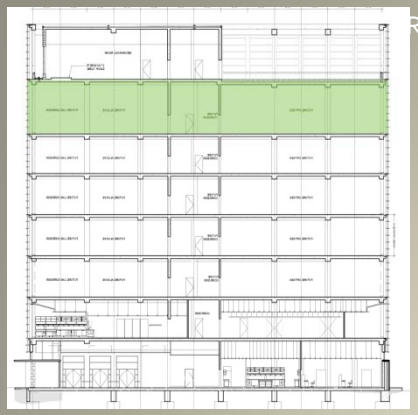
AREA: **19,928 GSF (each floor)**

PRESENT PHASE: **PRELIMINARY DESIGN**

PROJECT DESCRIPTION: The Project involves the fitting out of the remaining floors, not included in the first phase currently under construction. immediate training and research needs of the undergraduate and graduate programs. The floors are designed to meet the needs of cutting-edge research in Puerto Rico for the next 25 years. The design features standardization, flexibility and adaptability, systems integration, and ease of sharing equipment. Research space will include both wet laboratory bench space and dry laboratories used for computation, imaging, and electronics. It also includes laboratory preparation spaces, storages areas, staff and researcher's offices, office support spaces, and core services available to investigators and students, as well as common laboratories where shared instrumentation is available,

SCOPE OF WORK: Each respective floor includes areas such as staff and researcher offices, storage space, support offices, men's and women's restrooms. A common core area will be provided for each floor. This allows each floor to operate separate from other lab floors. Wet laboratory space as well as dry laboratory space is designed into each floor, thereby allowing flexibility and standardization. Each floor has Emergency Systems for Potable water and emergency power as back-up allowing 7/24 operation even during emergency situations. This is imperative for experiments. Into the design is built lab preparation spaces for both the wet and dry labs. Card access will be provided to allow for restricted access as required.

SUMMARY: The facility is designed to allow collaborative interdisciplinary approaches to research, which encourage efficiency in the use of human and physical resources as well as enhance productivity and competitiveness.



PROJECT: **VIVARIUM**

LOCATION: **MOLECULAR SCIENCE BUILDING**
PR #1, RIO PIEDRAS (UNDER CONSTRUCTION)

DEPARTMENT/SCHOOL: **MEDICAL SCIENCE CAMPUS AND RIO PIEDRAS CAMPUS JOINT VENTURE**

CONSTRUCTION COST: **11.2 M**

AREA: **19,928 GSF**

PRESENT PHASE: **PRELIMINARY DESIGN**

PROJECT DESCRIPTION:

The Vivarium facility is designed to allow collaborative interdisciplinary approaches to research, which encourage efficiency in the use of human and physical resources as well as enhance productivity and competitiveness. The design features standardization, flexibility and adaptability, systems integration, and ease of sharing equipment. Research space will include both wet laboratory bench space and dry laboratories used for computation, imaging, and electronics. All systems necessary for a fully functional Animal Facility shall be designed to comply with the Animal Welfare Act, meet or exceed the requirements indicated in the Guide for the Care and Use of Laboratory Animals (the "Guide") and continued AAALAC accreditation.

SCOPE OF WORK: The vivarium facility is a 19, 928 GSF fit out on the seventh level of the Molecular Science building comprised of an office area with support, conference, break room and storage spaces; men's and women's toilet, shower and locker room facilities; cagewash area with staging, soiled, and clean zones, sterilized storage area, feeding and bedding area, quarantine area with an airlock all supporting several animal holding rooms with associated procedure rooms and support lab spaces.

SUMMARY: Vivariums, also termed as Animal Holding Facilities (AHF), are an integral part of medical research, microbiological research and drug discovery. Working from small animals toward larger ones, vivariums allow researchers to analyze chemical, electrical and physical interactions within live subjects, to search for triggers of disease and how diseases develop, and to test new drugs or treatments that may be able to arrest or reverse the path of disease or decline. By creating carefully controlled research settings where variables are isolated and differences between classes of subjects can be carefully measured, vivariums enable researchers to progress quickly through many different possibilities for medical advances.

Facilities Improvement Program CO6

Floor 3-4
- Research Group
- MSC $10-15M

Floor 5-6
- Research Group
- RRP $10-15M

Vivarium
- Multi-campus
- VPIT $15M

May 6, 2009 $2M - $5M
June 17, 2009 $10M - $15M
July 15, 2009 $5M - $10M

Next Steps

- Create working groups
  - Support Team
  - Fast Track
- Study RFA – CO6
- Start writing!

Web-sites of Interest

Appropriations: http://appropriations.house.gov/

Science: http://www.aaas.org/spp/rd/

USA Government: http://www.recovery.gov/

Chronicle of Higher Education): http://chronicle.com/

American Council on Education (ACE -has economic stimulus resource center): http://www.acenet.edu//AM/Template.cfm?Section=Home