PENNSTATE

DATE: January 25, 2011

SUBJECT: HUB/Robeson Center Addition and Renovation,
University Park

TO: Long listed firms

Burt Hill
Cannon Design
DRS/Sasaki
EYP
FXFowle Architects
Gund Partnership
Holzman Moss Bottino Architecture
Ikon.5 Architects
Moody Nolan
Perkins+Will
WTW

Congratulations, your firm has been selected as one of the firms on a long list for the design of the above referenced project. The Screening Committee will review responses to this Request for Proposals and select a short list of three firms who will be interviewed by the Architect/Engineer Selection Subcommittee of the Board of Trustees.

It is necessary that you provide us with the information requested in the enclosed questionnaire no later than **February 22, 2011 at Noon.** Please answer all of the questions in the order requested. This will provide uniform information on all firms for evaluation and ultimate presentation to the Board of Trustees. We encourage you to be as brief as possible without sacrificing accuracy and completeness. Please submit to my office **fifteen copies** of all materials. I encourage you to visit the site and discuss the project with representatives from Union and Student Activities in order to understand our goals and the major issues driving this project. To schedule your site visit please contact Chad Spackman, the Project Manager at 814-865-9454 or cws4@psu.edu. Please contact me if you have any campus planning or process questions.

In addition to the questionnaire, in order to help you formulate a response, I am enclosing excerpts from the 2005 WTW feasibility study. As I indicated in the Letter of Interest, some

elements, including the White Building fitness program shown in the study have been eliminated or changed. I am also including existing building and site information, a utility scoping document and a non-binding fee proposal form for you to fill out; please submit one copy under separate cover; to assist you in filling out this form please assume a construction budget of $19,250,000 and an FF&E budget of $1,050,000. Finally, you will also find a copy of our Form of Agreement 1-P; please review this agreement to ensure that your firm accepts all terms and conditions as written.

A decision regarding the firms to be interviewed by the Board Subcommittee on Architect/Engineer Selection will be made by March 3, 2011 and posted to our web site. Interviews with the short-listed three firms will be held during the week of March 14, 2011. Results of the interviews will be announced at the Board of Trustees meeting on March 18, 2011 and posted to our web site.

We appreciate your cooperation and interest in preparing this material. If the Board selects your firm, we will be looking forward to working with you on the development of this important project.

Please do not hesitate to call me if you have any other questions.

Sincerely,

David Zehngut
University Architect
207 Physical Plant
University Park, PA 16802
(814) 863-3158, fax (814) 863-7757
E-mail dxz3@psu.edu

Enclosures

cc: Screening Committee Members
A. G. Horvath

QUESTIONNAIRE

HUB/Robeson Center Addition and Renovation
University Park

The following items of information must be supplied to the University. We have made no attempt to provide sufficient space below for you to fill in blanks but expect that you will provide the information requested on your own letterhead paper. **Failure to answer all questions will be reason for disqualifying your team from further consideration.** Please provide **fifteen copies** of all material submitted. The deadline for submission is **February 22, 2011 at Noon.**

1. Please describe your approach to this project. Include a description of the scope of work your team will provide.

2. In addition to any further thoughts you might have on the essence of this project, we would like to see further evidence of your firm's ability to translate design intentions into a meaningful project (including the site). Therefore, please discuss in detail, but in no more than one or two pages, an example from your portfolio relevant to our project that best indicates the appropriate resolution of an understanding of the uniqueness of a project, design intentions, and translation of those design intentions into a meaningful and synthesized final solution.

3. Qualifications and experience of the lead design team members, **including consultants**, to be assigned to this project. Provide a clear indication of the roles to be performed by each **individual**. Please be very specific regarding the personal involvement and on-site participation of each lead design **individual.**

4. Consultant firms, if any, proposed for this project:

	Firm	No. of Projects Worked With Your Firm	Total Amt. Value
Structural Engineers			
Mechanical Engineers			
Electrical Engineers			
Landscape Architects			
Interior Designers			
Cost Estimators			
Others			

5. Experience of the firm and any consultants in the design of facilities similar to the ones proposed (college and other), completed or under construction during the past ten years. List for each the completion date, final construction cost and gross square feet provided, and be very specific about the services provided by your firm. Identify those specific projects included in the proposed design team experience listed in #3 above.

6. Experience of the firm and any consultants in the design of college and university buildings (not already included in # 5 above) completed or under construction during the

past ten years. List for each the completion date, final construction cost and gross square feet provided, and be very specific about the services provided by your firm. Identify those specific projects included in the proposed design team experience listed in #3 above.

7. Evidence of the team's commitment to sustainable design.

8. List five client references for similar scope projects completed during the past ten years, giving name and telephone number. In order to give us an indication of your cost control track record, please **provide accurate and complete data indicating the gross square foot area, the design estimated cost, bid cost, the final total construction cost and the bid date for each project.** Please explain the reason for any major discrepancies between estimated, bid and final construction costs. Please make sure the telephone number of each client reference is current.

9. Graphic examples of selected projects personally done by **the lead design architect**, including brief description and completion date.

10. Please provide a proposed design schedule for each component of this project in graphic form allowing one week for any necessary Penn State University review. Assume the design process will start in April, 2011.

11. List errors and omissions insurance coverage.

12. Number of personnel in present firm(s): Architects _____ Engineers _____
Interior Designers _____ Landscape Architects _____ Others _____

Which of the above are professionally registered?

Feasibility Study HUB/Bookstore/White Building
The Pennsylvania State University
University Park, PA

April 8, 2005

Program Elements

- HUB / Bookstore
- Winter Garden
- White Building

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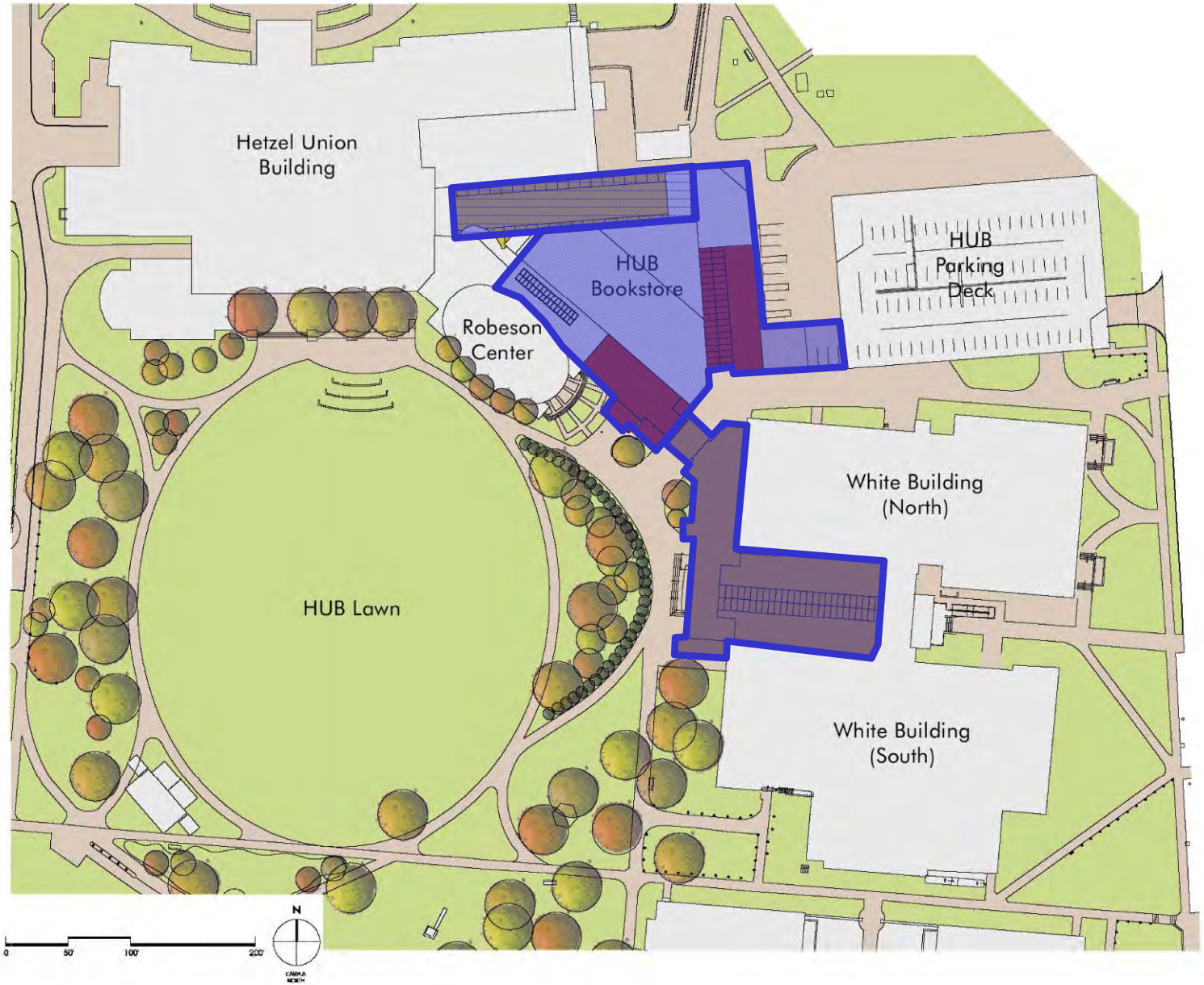

Site Plan

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HUB/Bookstore Component	Program GSF	Totals
Services/Retail		
Post Office	2,230	
Student Radio/TV Station	1,730	
ID Office/Branch Bank	1,380	
Two meeting rooms (30-40 seat)	1,140	
Circulation	12,380	
Subtotal	18,860	
Bookstore		
General Retail	5,220	
Café	400	
World Campus	300	
Additional Retail	500	
Subtotal	6,420	
HUB/Bookstore Total	25,280	**25,280**

Feasibility Study HUB/Bookstore/White Building
The Pennsylvania State University
University Park, PA

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Level A

Feasibility Study HUB/Bookstore/White Building
The Pennsylvania State University
University Park, PA

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Level B

Feasibility Study HUB/Bookstore/White Building
The Pennsylvania State University
University Park, PA

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Level C

Winter Garden Component		
220 seats at tables	3,300	
STA Travel	700	
Restrooms	600	
Circulation	4,400	
Winter Garden Total	9,000	**9,000**

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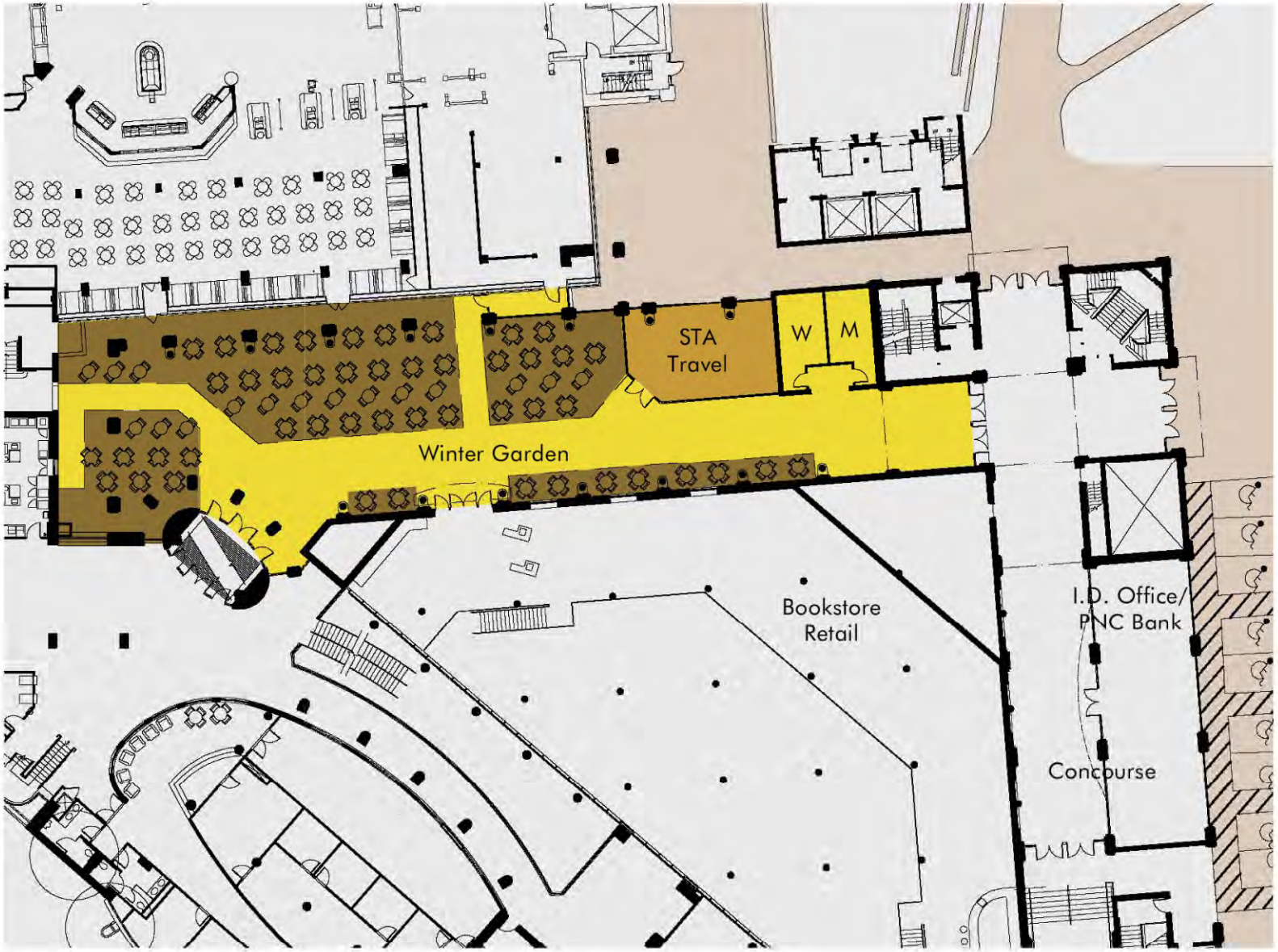

Level B

White Building Component		
Climbing Wall/Cardio Infill Area	6,820	
Plaza Infill Circulation	9,830	
Plaza Infill Restrooms & storage	2,000	
Fitness Lounge	1,200	
Two Meeting Rooms (50-60 seat)	1,450	
Copy Center	2,200	
Juice & Smoothie Bar	320	
White Building Total	23,820	**23,820**

Feasibility Study HUB/Bookstore/White Building
The Pennsylvania State University
University Park, PA

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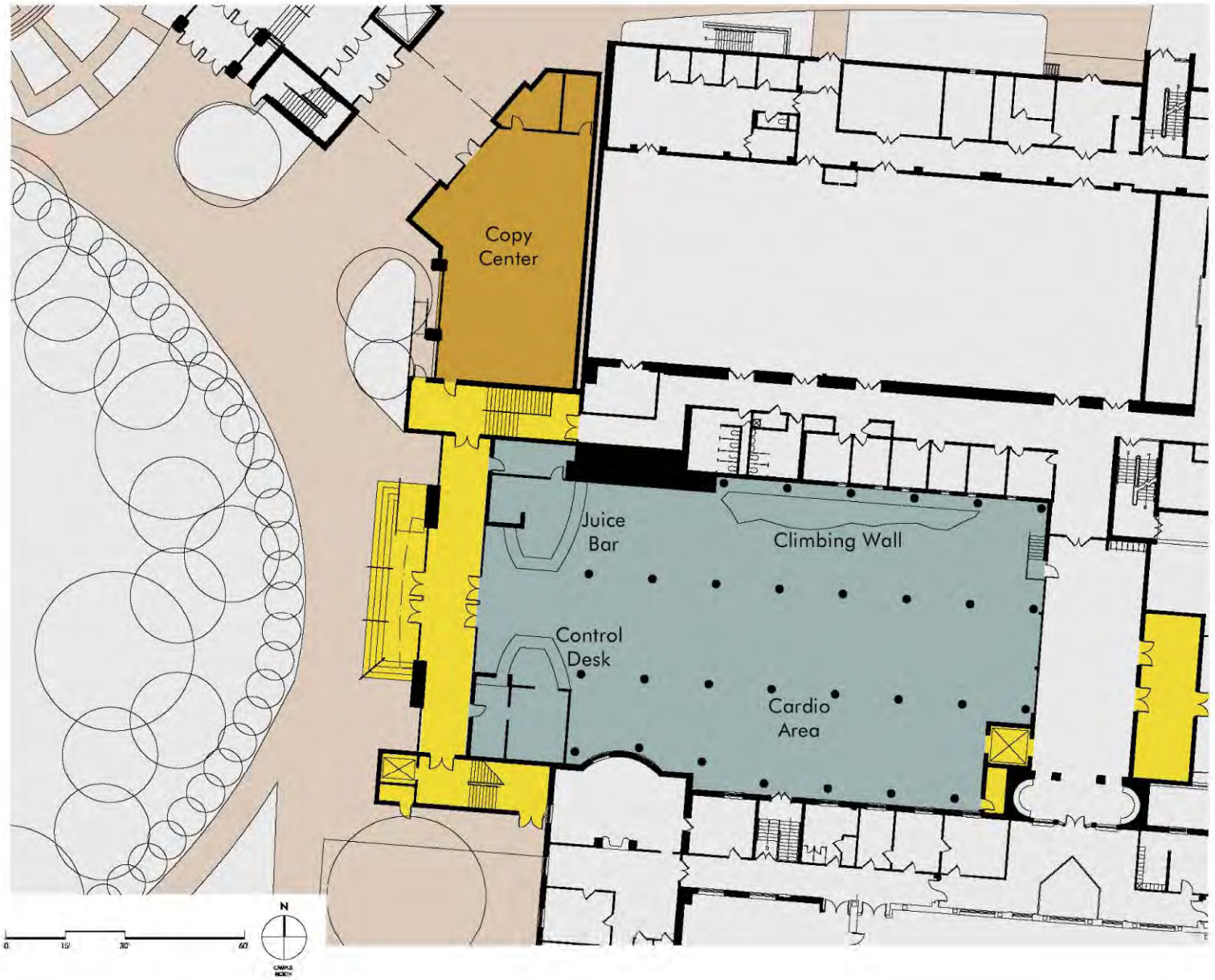

Level A

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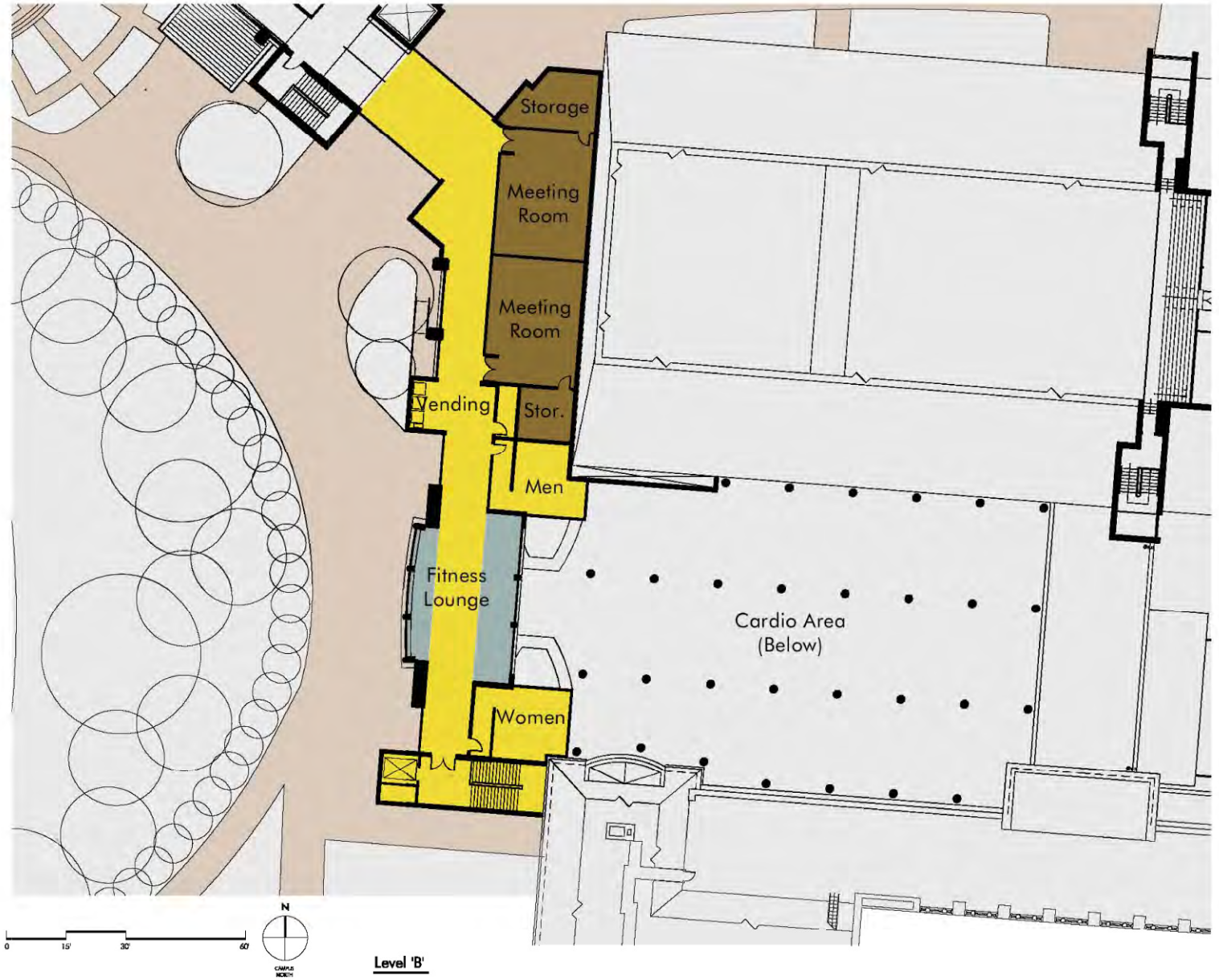

Level B

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Project Summary

HUB / Bookstore	25,280 gsf
Winter Garden	9,000 gsf
White Building	23,820 gsf
TOTAL	**58,100 gsf**

Feasibility Study HUB/Bookstore/White Building
The Pennsylvania State University
University Park, PA

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Level A

PENNSTATE

Level B

Feasibility Study HUB/Bookstore/White Building
The Pennsylvania State University
University Park, PA

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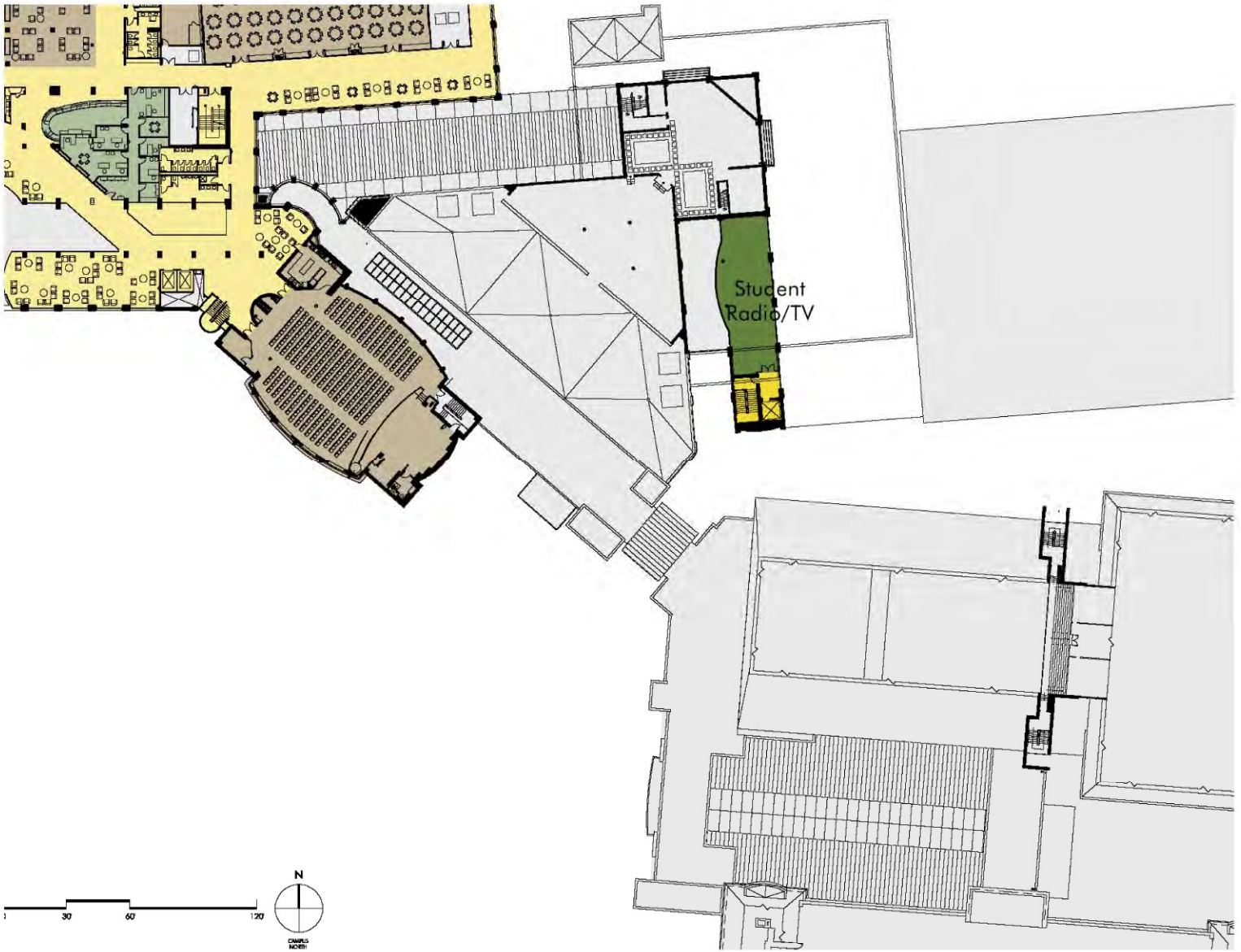
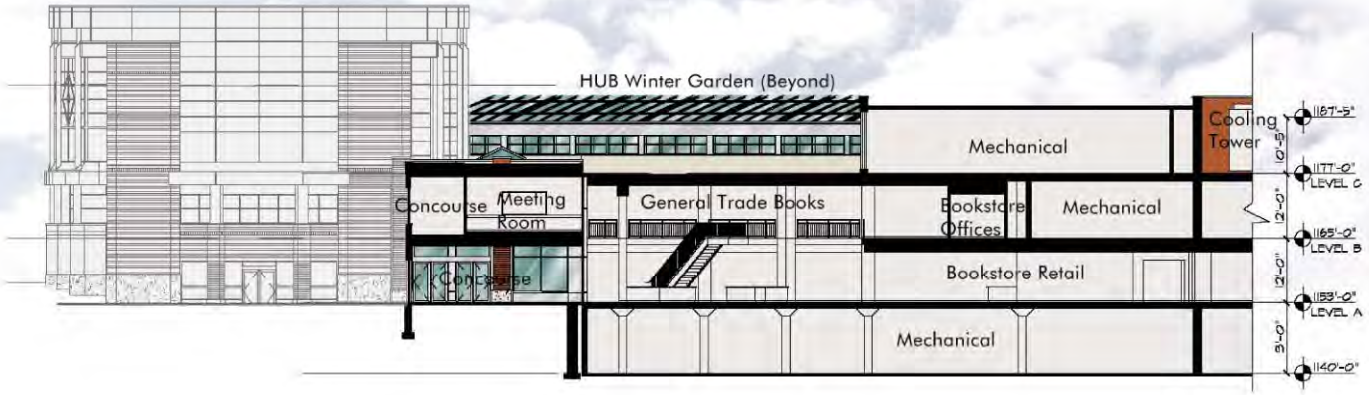


Level C

Section A-A
1/32"=1'-0"

0 16' 32' 64'



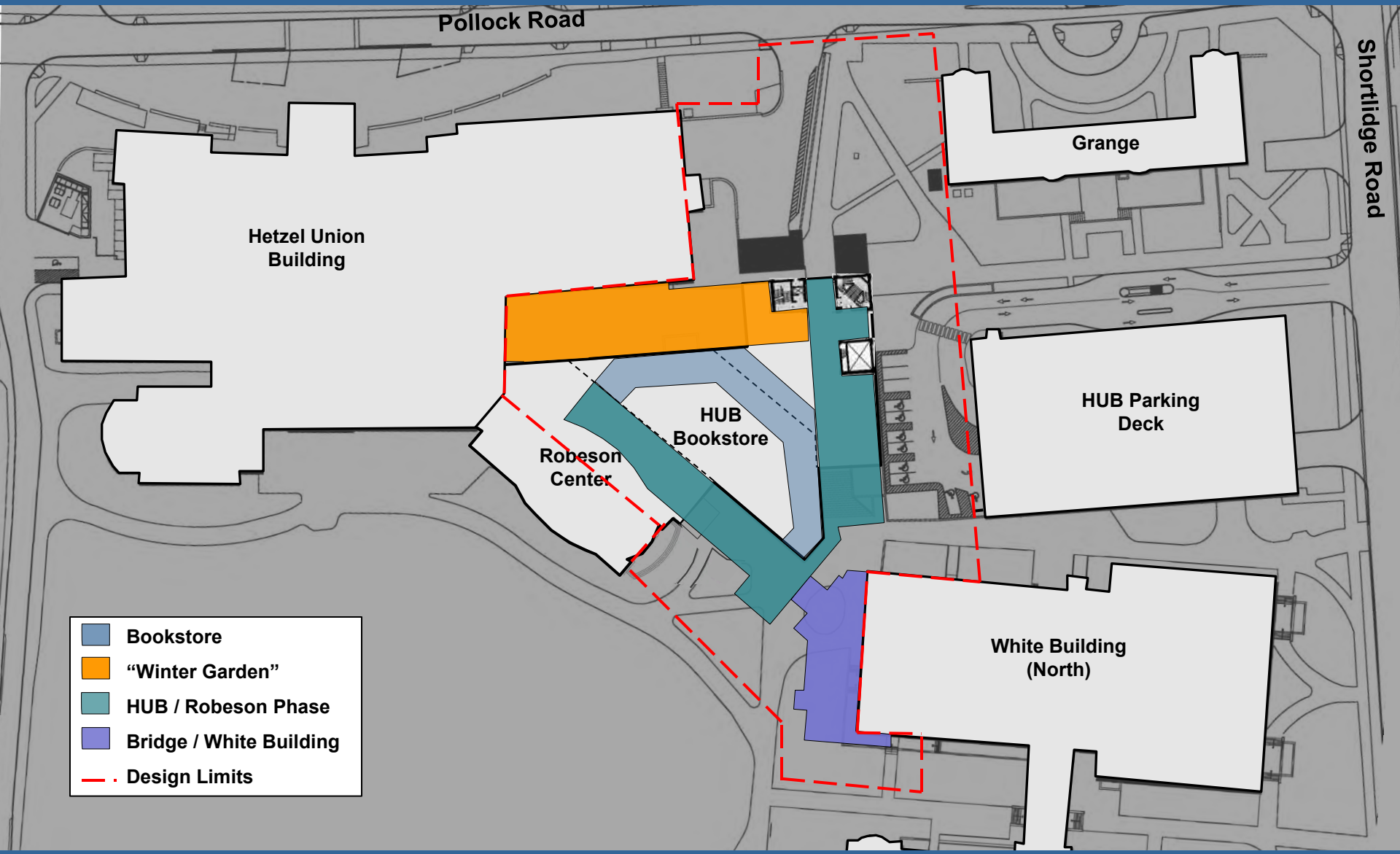
Section B-B
1/32"=1'-0"

0 16' 32' 64'

Building Sections

Anticipated HUB Expansion Project Design Limits

(Excluding Underground Utilities)



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Office of Physical Plant
Energy and Engineering Division
Engineering Services

The Pennsylvania State University
Physical Plant Building
University Park, PA 16802-1118

SCOPING DOCUMENT
HUB/BOOKSTORE/WHITE BUILDING EXPANSION PROJECT

DATE: August 25, 2010

FROM: Ian Salada

TO: Chad Spackman

This memo describes the building system requirements of the proposed project to expand and connect the White Building, Bookstore Building, and the Hetzel Union Building (HUB) at the University Park Campus. The project would increase the square footage of the buildings by approximately 45,000 square feet. This document is intended to provide information on the required building utility and mechanical systems and to provide "order of magnitude" estimates of utility installation costs that can be used to aid in the development of an overall project cost estimate.

DESIGN STANDARDS

New facilities shall be Leadership in Energy and Environmental Design (LEED) certified and shall achieve a minimum of at least 30% energy savings over the latest version of the ASHRAE 90.1 standard and meet selected indoor air quality criteria in accordance with the University's policy of environmental stewardship. Integrated design methods shall consider building orientation, glazing areas and shading methods to optimize passive solar heating and minimize summer solar heat gain. Energy modeling shall be used to study and document alternatives that can be used to achieve the 30% energy savings beyond the ASHRAE 90.1 base building as indicated in Design Standards.

All aspects of the building design must conform to the University's Design Standards, which can be found on the OPP website (https://www.opp.psu.edu/planning-construction/design_and_construction_standards/standards-and-forms).

BUILDING ENVELOPE

The Design Professional team shall coordinate efforts in an iterative process to apply holistic, sustainable design principles to the exterior envelope. The envelope design shall meet the architectural functional and aesthetic objectives, help achieve comfortable and pleasing indoor environmental conditions with effective combined use of passive elements, and be purposefully integrated with the HVAC and lighting systems so that all work effectively together to minimize dependence on non-renewable energy use and associated owning and operating costs for the life of the building. Follow criteria in ASHRAE Standard 55 for maintaining local thermal comfort. Design shall include full consideration of causes of local thermal discomfort (radiant temperature asymmetry, drafts, vertical air temperature differences and floor surface temperature) and provisions to avoid and/or control them within allowable limits.

Perform a documented quantitative analysis to develop the envelope that, as evaluated as a distinct component, helps achieve the overall energy performance objectives defined above. It is not acceptable for the design envelope component to exceed the calculated energy use of the code prescribed baseline building envelope component and then try to make up the difference in the HVAC, Service Water Heating, Electrical Power, Electrical Lighting, and Process Loads Energy Components.

As a means to achieving energy performance goals, apply the following methods and guidelines:

- Limit fenestration size and location as appropriate to achieve effective views and daylighting, yet adequately control glare, maintain thermal comfort and avoid excessive solar heat gain.
- Specify high performance, spectrally selective glazing on each orientation of the building and individual perimeter space wall areas for vision and daylighting functions; to effectively use desirable passive solar gain and minimize internal heat loss in heating season; reduce unwanted solar heat gain in cooling season.
- Integrate permanent, exterior solar shading devices (e.g. insets, overhangs, horizontal or vertical fins, and light shelves) applied with respect to building orientation and seasonal sun angles of site to take advantage of passive solar gain in heating season and reduce undesirable solar heat gain during cooling season.
- Design for effective, integrated daylighting using a combination of orientation, window placement, and glare control devices to achieve beneficial indirect daylight in the regularly occupied spaces.
- Maintain envelope air, moisture and temperature barriers and include clearly defined, superior construction details and specifications of performance criteria to maintain thermal integrity (avoid thermal bridging, etc) and air infiltration and moisture intrusion barrier assemblies.
- Integrate design of envelope and HVAC systems: If operable windows are included in the design, the designer shall incorporate a method of turning off HVAC equipment to the space that the operable windows serve.

Submit a Building Envelope Compliance Report signed and sealed by the lead Design Professional that indicates compliance with and/or options for meeting envelope performance. This report shall be submitted for Owner Review as part of the Schematic Design Phase, prior to any official design approvals by the University, including final design approval by the Board of Trustees.

LANDSCAPE

Site design shall reflect the agricultural heritage of the University and shall be of a type appropriate to an institution of higher learning. Plantings should not be purely decorative, but rather functional in their design and layout. The design of plantings and open space should reinforce the basic campus structure by defining streets and pedestrian corridors, enhancing the architectural components of the space, and encouraging the principles outlined in the University Park Master Plan. Site design shall be in accordance with the University's Planting Design Guidelines, available from the Office of Physical Plant division of Campus Planning and Design.

Plants outlined on the Pennsylvania Department of Conservation and Natural Resources list (available at http://www.dcnr.state.pa.us/forestry/wildplant/invasive.aspx.) as being "moderate" or "serious" threats for invasiveness are banned from planting on all University properties.

Existing trees shall be preserved and must be protected during construction. Contact the Office of Physical Plant division of Campus Planning and Design and the University Arborist for protection details and requirements; and for guidance where existing plant material will hinders design and/or construction.

Planting designs must be approved by the Office of Physical Plant division of Campus Planning and Design and the University Arborist.

The site layout must include adequate space for secure bicycle racks. Total storage capacity shall be determined based upon the requirements contained in LEED-NC version 2.2.

STEAM

The existing steam services serving the HUB, White Building, and Bookstore have adequate steam capacity to serve the proposed building additions.

CAMPUS CHILLED WATER PIPING

The campus chilled water system shall be extended to serve the HUB, Bookstore, and Grange Buildings as well as the new addition to the White Building. The existing chillers, cooling towers, and condenser water pumps located in the Bookstore Building and serving HUB, Bookstore, and Grange shall be removed. The existing

chillers located in and serving the White Building shall remain. Campus chilled water will be needed because the additional cooling load associated with the proposed building additions exceeds the available capacity of the existing cooling systems, which are also beyond their useful life, inefficient, and require excessive maintenance each year.

New 12" campus chilled water supply and return piping shall be extended into the Bookstore Building's basement mechanical room from existing 12" branch valves located below grade under the loading dock service drive next to Pollock Road. In the mechanical room, three (3) completely separate secondary chilled water piping systems shall be provided to serve the Bookstore Building, HUB Building, and additions to the White Building. For each building, provide separate pumps, flow meters, control valves, and all other components shown on OPP's standard chilled water service building entrance piping diagram. From the mechanical room, piping shall be extended through the building as required to connect to all existing or new chilled water distribution piping within the HUB and Bookstore buildings. From the mechanical room, piping shall be extended through the building as required to serve new chilled water distribution piping serving the proposed addition to the White Building.

New 6" campus chilled water supply and return piping shall be extended to the basement mechanical room in the Grange Building from new underground valved tees installed in the new 12" underground piping being extended into the Bookstore. The existing 4" piping serving Grange from the Bookstore Building shall be abandoned in place, unless removal is required to accommodate other new work in the same location. In the Grange mechanical room, a complete campus chilled water building service entrance piping system shall be provided as indicated on OPP's chilled water service building entrance piping diagram. Existing chilled water pumps in Grange Building shall be reused if possible.

The attached drawing shows the proposed points of connection to the campus chilled water system as well as a schematic path for routing the piping to each building. Extension of the campus chilled water system into the Bookstore Building and the Grange Building will require the addition of approximately 484 feet of 12" and 278 feet of 6" chilled water piping.

The anticipated peak mechanical cooling load for the existing and new systems being added to the campus chilled water system under this project is approximately 650-800 tons. This added load will have a significant impact on the capacity of the campus chiller plants that must be considered in future plans.

The connection of the current HUB/Bookstore chilled water system will also impose a significant "free cooling" load on the campus chilled water system. The "free cooling" load is the cooling load present during cold weather. When outside air conditions are suitable (typically below 50°F outside air temperature, or 42°F dew point), the campus chilled water temperature is maintained without running chillers. A water-side economizer system using condenser water and a heat exchanger maintains the chilled water supply temperature at 46° or lower. This allows considerable energy/cost reduction in the production of chilled water. The peak "free cooling" load of the HUB/Bookstore is believed to be between 200-250 tons. The existing "free cooling" system at the North Campus Chiller Plant cannot accommodate a load increase of this magnitude. Modifications to the HUB HVAC systems and/or modifications to the campus chilled water "free cooling" system to provide additional capacity are required before the present HUB/Bookstore chilled water system can be connected to the campus chilled water system. It is recommended that changes be made to the HVAC system in the HUB to reduce the winter chilled water demand, therefore reducing the free cooling load on the campus chilled water system, before it is connected.

The estimated cost to extend the site chilled water piping to the Bookstore and Grange Buildings is approximately $381,000. The cost of the work associated with the installation of the various components and controls required for the chilled water service entrances within the mechanical rooms of the Bookstore and Grange buildings has been estimated to be approximately $320,000. These estimates do not include the costs associated with the upgrades to the campus chilled water plant(s) that will be required to meet the additional chilled water demand resulting from connection of the HUB, Bookstore, Grange, and White Building addition to the campus chilled water system. The estimates also do not include the cost of modifications that would be required to the HUB HVAC systems to reduce the winter free cooling load.

ELECTRIC SERVICE

Due to the connectivity to existing buildings, electric service to the new space should be supplied from adjacent buildings. New loads and existing spare capacity will have to be evaluated or matched. Existing unit substations may need to be replaced with new.

The feasibility study did not specifically identify new mechanical or electrical spaces. These spaces must be identified.

The HUB building's existing 480v switchgear shall be increased to 2,500 ampere gear and a 1500 kVA transformer shall be provided. Replace the existing Bookstore 208 switchboard with a new 1200 ampere switchboard. Serve the new transformer from the existing service equipment in the penthouse. Eliminate the air conditioning chillers in the penthouse. These changes should accommodate load increases in the HUB / Bookstore area. The estimated cost to reconfigure the transformers and switchgear as described above is approximately $400,000.

Electrical metering shall be provided as described in the 'Energy Metering' section below.

TELECOMMUNICATIONS

The project shall include design for the relocation of the campus Telecommunications ductbank and manhole system. Design also includes relocation of existing single and multimode fiber and copper to support telephone service. Fiber and copper relocation include all installation and splicing for a complete and operational system.

Temporary Services/Phasing Requirements –The Telecommunications design shall include provisions for temporary services, relocation of existing services and methods to accommodate phasing requirements so that continued operation of existing services is accommodated.

The footprint of the proposed additions will interrupt several Telecom ductbanks, manholes and services in the area.

The ductbank containing the primary telephone services for the University Park campus is in the footprint area of the addition, and will be required to be relocated. There are currently 11-4" ducts, containing approximately 22,000 copper pairs that are owned by Verizon and several fiber cables owned by Verizon that will need to be located.

In addition, Penn State owned services to the Bookstore and HUB, White Building, Henderson North and South, and Health and Human Development East use this pathway. All of those services (copper, coax and fiber) will be required to be relocated as well.

The proposed additions also impact the smaller ductbanks serving the HUB, Bookstore and White Building, and telecom manhole 4.

Preliminary Cost Estimates

Ductbank (approx. 1550 ft.)	$400,000
Manholes (5)	$100,000
Fiber and Copper Materials	$295,000
Copper splicing	$375,000
Fiber splicing	$ 25,000
Service Transfers/Phasing	$ 25,000
White Service entrance	$ 25,000
Removals	$ 50,000
Restoration/Utility coordination	$150,000
Contingency (10%)	$145,000
Total Telecom Cost	**$1,590,000**

NATURAL GAS

No new natural gas service is anticipated.

DOMESTIC WATER AND FIRE SERVICE

The proposed project will not require the relocation of any existing water lines. Existing services are capable of serving the new building additions. It is assumed that the costs to extend service piping within the building are included in the building construction estimate and are not included here.

STORM DRAINAGE

The proposed building additions will cover existing second order storm drains, which are older pipes with inadequate sizes and varying materials. This second order storm drain system (from STMH169A to STMH234) will not be able to be diverted around the project site or to another drainage system. The feasibility study does not currently provide enough detail regarding the extent of the mechanical room shown on Building Section B-B or the required footer elevations; therefore, it is assumed that the storm drains will be able to remain in their existing approximate alignment. If the additions are designed to sit over the storm drains, the lines will need to be replaced with reinforced concrete pipe (RCP). The storm drains in the winter garden area can remain in place and will not need to be replaced with RCP.

Approximately 700 linear feet of storm drains, 6 manholes, and approximately 6 inlets will need to be demolished. Replacement will be by approximately 380 linear feet of 15" RCP and, at a minimum, storm manholes STMH169A, STMH177, and STMH620 will need to be replaced. Other minor storm lines will need to be installed as needed to meet the site/building design constraints. The estimated cost to perform this work is approximately $75,000.

The site drains to the Thompson Run Watershed, a high quality cold-water fishery, for which the University does not have a regional storm water control facility. Therefore, the site will need to control runoff from all new impervious areas. Control will consist of: peak runoff rates, runoff volume, water quality, and temperature due to new regulatory requirements. While the total change in imperviousness is small (about 0.2 acres), runoff volume, water quality and temperature requirements will be difficult to meet and may cause significant project delays. Green roofs may be an acceptable technology if no other storm water management volume controls are practicable. PaDEP allows three types of volume control technologies: 1) infiltration (artificial injection of water into the soil), 2) capture and reuse, and 3) vegetative systems, such as a green roof. Technology 1, infiltration, will not be permitted at the site due to the high density of infrastructure and past incidences of sinkhole development in the area. The estimated cost of an 8,000 square foot green roof is approximately $250,000, which does not include the cost of any upgraded structural components that may be required to accommodate the green roof. A storm water reuse system should be used for the building's toilet flushing and/or irrigation requirements if possible.

SANITARY SEWER

The proposed building additions will cover existing gravity sanitary lines that serve a significant portion of the campus. These lines cannot be diverted around the project site or to another drainage system. The feasibility study does not currently provide enough detail regarding the extent of the mechanical room shown on Building Section B-B or the required footer elevations; and therefore, it is assumed that the sanitary pipes will be able to remain in their existing alignment, especially vertically. If the additions are designed to sit over the sanitary pipes, the lines will need to be replaced with ductile iron pipe. By-pass pumping will be required during this construction. The estimated cost to replace the existing sanitary pipe from the book store to SAMH 404 including manholes is approximately $95,000.

FIRE DEPARTMENT VEHICLE ACCESS

While the proposed building layout shown in the feasibility study does appear to make some provision for fire truck access to the HUB lawn from Shortlidge Road, the sidewalk and landscaping layout near the White/Bookstore Building connector is still too constricted for a truck to maneuver. The additional maneuvering

area that will be required to provide adequate fire truck access could potentially reduce the overall square footage of the proposed addition.

BUILDING SYSTEMS

HVAC

Cooling should be provided to the building additions via extension of the campus chilled water system. Direct Expansion (DX) cooling systems will not be accepted on this project unless approved by the Office of Physical Plant, Engineering Services.

Air handling equipment must be located indoors. Indoor mechanical space will be needed to accommodate new air handlers, pumps, heat exchangers, and other equipment. The feasibility study assumes rooftop mounted equipment and does not provide for any new indoor mechanical space. Mechanical space must be incorporated into the building programming during the schematic design phase of the project. Basement mechanical space will be very difficult and expensive to implement on this project due to existing gravity drainage lines that would need to be relocated.

The existing mechanical space in the upper floor of the Bookstore contains the chillers for the HUB and the bookstore. The proposed plan may prevent access to that equipment which also includes an electrical service. Adequate service space shall be provided around all existing equipment to remain to allow for proper maintenance.

Heat must be provided to the building additions via low pressure steam distributed to heat exchangers, etc. as required. All steam condensate shall be returned to the campus steam plant. Converters shall be shell and tube type, and selected at an inlet steam pressure of 2 psi. Two converters and multiple pump systems should be provided to allow for back-up and the operation of different water temperatures, different systems, and different building areas as appropriate. Systems should be segregated into various zones, if applicable, and summer reheat services. The new hot water system shall serve new heating coils in air handling equipment, reheat coils on VAV boxes, and new terminal heating devices. Heating control valves shall be 2-way, proportional. Heating pumps shall be provided with variable frequency drives (VFD's) to accomplish flow variation in the system. Heating coils utilizing steam directly shall not be used.

New HVAC systems shall be quiet, economical and easy to operate and maintain. Variable flow fans and pumps systems shall be used. Adequate service space shall be provided around and within air handlers to allow for proper maintenance of the equipment. Main ducts, piping mains, VAV terminals and other HVAC equipment requiring periodic maintenance shall be located to minimize disruption to normally occupied spaces. In addition, care shall be taken to prevent VAV terminals from being located above or near spaces where noise is of particular concern.

Supply VAV terminals shall be provided with hot water heating coils for winter heating and summer reheat control. A dedicated VAV terminal and thermostat shall be provided for each space.

All occupied areas shall be provided with mechanical ventilation to meet the current building code and ASHRAE Standard 62, including those spaces with operable windows. Design mechanical ventilation quantities shall not be reduced by the presence of operable windows. Demand based ventilation control strategies shall be used to vary outside air quantity to maintain allowable CO2 or VOC levels. Economizer operation shall also be provided to allow the use of outside air for cooling. Air handlers shall have mixing and blending devices/sections and adequate length to prevent air stratification and nuisance tripping of freezestats.

Summer dehumidification shall be accomplished using methods that will minimize or eliminate the need for simultaneous heating and cooling. Winter humidification shall not be provided.

Terminal units such as fan coil units or unit ventilators shall not be considered for this project. Equipment that requires chilled water for cooling in the winter shall not be used, unless approved by the Office of Physical Plant, Engineering Services.

Spaces such as server rooms or telecommunication equipment rooms shall have dedicated cooling equipment. Equipment selection shall be approved by the Office of Physical Plant, Engineering Services.

CONTROL SYSTEM

The building automation system (BAS) shall be direct digital control (DDC), and shall communicate at the building level using BACnet protocol. Automated Logic Corporation, and Johnson Controls Inc. (Metasys System Extended Architecture only) are the only automation control systems acceptable for use at the building level. The BAS shall provide Direct Digital Control (DDC), monitored and adjusted by the University's Automated Logic WebCTRL, or JCI Metasys System Extended Architecture software at University Park, all via Microsoft Internet-Explorer, the thin-client user interface. The University's standard BAS guide specification shall be used and edited as appropriate; no other BAS specification is acceptable.

Provide occupancy controls on lighting in assembly/classroom spaces.

The BAS shall monitor, trend and report utility consumption data; refer to the 'Energy Metering' section below. The BAS system shall be connected to the campus Enterprise Utility Management System (EUMS). All metered data shall be transmitted to the EUMS and the building shall respond to global operation signals from the EUMS.

All aspects of the BAS shall be closely coordinated with the University and approved by the Office of Physical Plant, Engineering Services during the building design.

PLUMBING

In general, plumbing systems, materials, and fixtures shall comply with the University design standards. All special systems required for the programs and processes in the building shall be coordinated with University personnel. All special plumbing systems and fixtures shall be reviewed with both the building occupants and the Office of Physical Plant, Engineering Services.

Domestic water must not be used to provide process cooling in a 'once-through' manner.

A meter and backflow preventer shall be provided for all new domestic water services; refer to the 'Energy Metering' section below.

DOMESTIC HOT WATER

If possible, domestic hot water supply and return piping should be extended from the existing systems to serve the building additions and connecting spaces. If a new domestic water heater is required, it shall be a steam fired tank-type unit. Refer to the University's Design Standards for domestic hot water system design requirements.

FIRE PROTECTION

A wet-pipe fire sprinkler system shall be provided throughout the new building additions and connecting spaces in accordance with the requirements of the International Building Code. It is anticipated that existing fire protection systems can be extended to serve the new additions and connecting spaces. Provide standpipes if required. Dry type systems shall be used where freezing temperatures may be encountered; antifreeze systems shall not be used.

This project provides a good opportunity to consider adding automatic sprinkler protection to the north portion of the White Building.

The professional must evaluate the need for a building fire pump.

A Post Indicator Valve (PIV) and a Fire Department Connection exist in the proposed Winter Garden area of the HUB. This equipment must be relocated outside of the structure in a fire department accessible location.

SPECIAL MECHANICAL SYSTEMS

All special systems required for the programs and processes in the building shall be coordinated with University personnel. Special mechanical systems shall be reviewed with both the building users and the Office of Physical Plant, Engineering Services.

FIRE ALARM

The feasibility study proposes a rather limited interconnection between the buildings, so the fire separations should be maintained and the fire alarm systems should be kept separate. The HUB and Bookstore Buildings are covered entirely by a Siemens/Pyrotronics MXL panel. The system in the North section of the White Building must be replaced (antiquated 120VAC system not capable of strobes or automatic detection). The South section of the White Building is equipped with a new Siemens/Pyrotronics MXL that can be expanded to cover White North and the new connector. If there are doors to be held open between the White Building and the HUB, the necessary interfaces should be provided from both buildings that will close the doors and sound the appropriate alarms. There are a number of approaches that can be taken to prevent a full scale evacuation. For fire alarm related inquiries please contact PSU OPP Electronics Engineer, Scotty Eble at (814) 865-1627.

The professional must evaluate the need for a Fire Command Center.

ENERGY METERING

All building utility services serving the HUB, Bookstore, and White Buildings as well as all connecting spaces shall be metered. Many of the required meters are currently installed and will be fully operational by the summer of 2007. Where utilities are added or modified under this project, metering shall be provided as described below. The design consultant shall contact the Office of Physical Plant, Engineering Services, for specific meter requirements.

Electrical metering for monitoring building power conditions and consumption shall be provided. The meters shall be manufactured by Square D. Consult the University's Electrical Utilities Engineer for metering requirements. The meters shall be provided with the necessary Ethernet option card for connection of the meter directly to the BAS IP Network. The BAS system shall monitor, trend, and archive all data presented by the meter to the network; generate user definable alarms for each of the various power quality readings; and shall transmit data to the campus Enterprise Utility Management System.

Chilled water metering for monitoring flow and tonnage of chilled water into the building shall be provided. Chilled water meters shall be Rosemount model 8705PSA, and shall be furnished by the University and installed by the Contractor. Temperature sensors shall be matched RTD's, and shall be provided by the BAS Contractor. The BAS system shall monitor, trend, and archive all data associated with chilled water metering, and shall transmit data to the campus Enterprise Utility Management System.

Domestic water metering for flow and consumption shall be provided. The meters shall be Invensys Sensus Series "W" Flow Meter with Act-Pak providing a pulsing dry-contact for water consumption and a 4-20 mA output for flow demand. A separate pressure sensor shall be provided to sense building service pressure. The BAS system shall monitor, trend, and archive all data associated with the meter; generate user definable alarms for measured consumption and demand; and shall transmit data to the campus Enterprise Utility Management System.

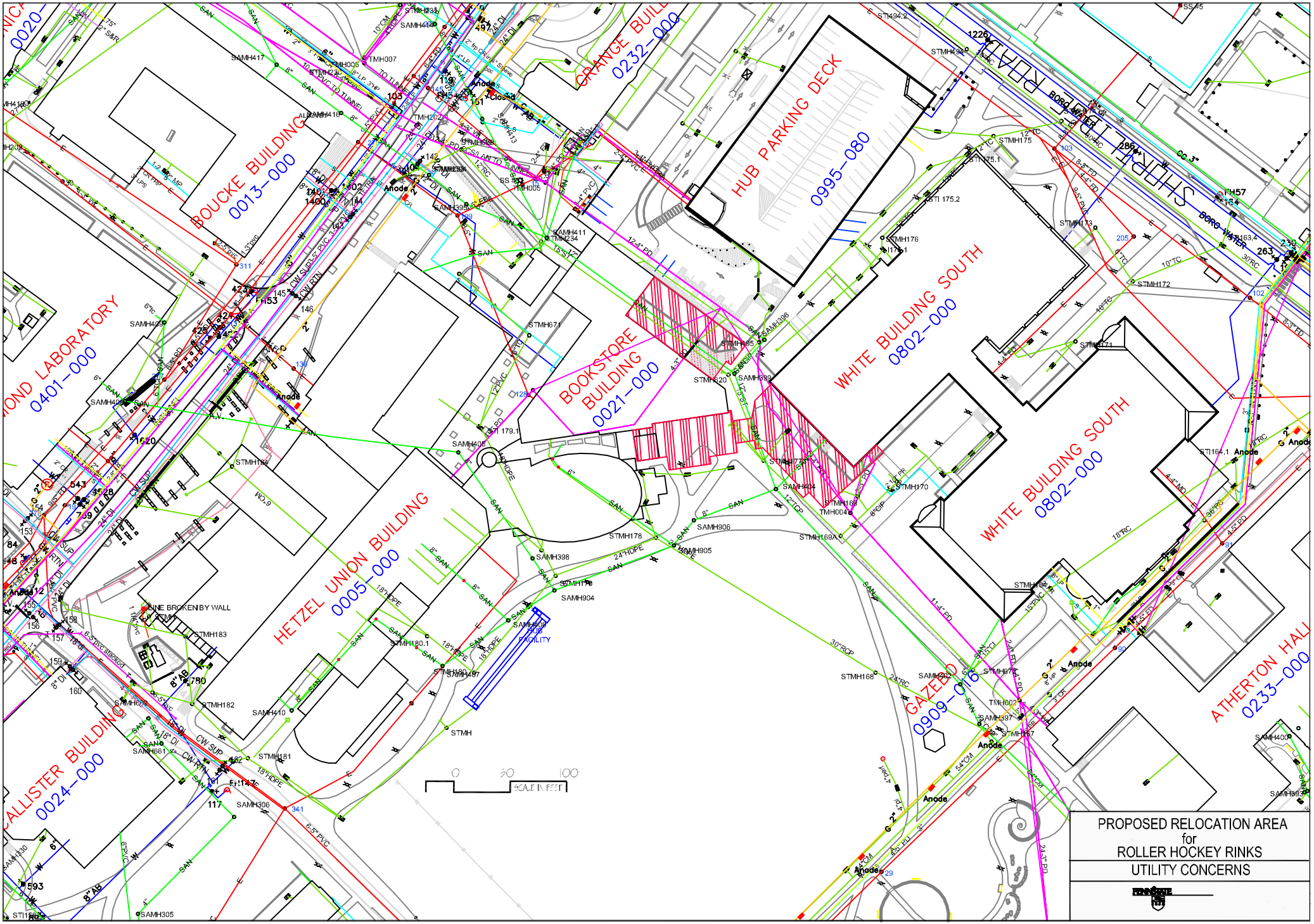
Steam flow metering for monitoring demand and consumption shall be provided. The meter shall be a Mass Flow Differential Pressure Flow Meter with appropriate instrumentation for pressure and temperature correction providing both demand and consumption measurements. The transmitter shall be a model 3095 MV multi-variable mass flow transmitter manufactured by Rosemount. The BAS system shall monitor, trend, and archive all data associated with the meter; generate user definable alarms for measured consumption and demand; and shall transmit data to the campus Enterprise Utility Management System.

Natural gas metering for monitoring flow and consumption shall be provided. The BAS system shall monitor, trend, and archive all data associated with the meter; generate user definable alarms for measured consumption and demand; and shall transmit data to the campus Enterprise Utility Management System.

SUMMARY OF COSTS

Below is a summary of the construction cost estimates presented in this document.

Utility	Description of Work	Estimated Cost
Steam	None required	$0
Natural Gas	None required	$0
Campus Chilled Water #1	Extend site campus chilled water piping to Bookstore and Grange Buildings	$381,000
Campus Chilled Water #2	Install chilled water piping, pumps, and controls only within Bookstore and Grange Building mechanical rooms. *(Does not include costs associated with upgrades to chilled water plant)*	$320,000
Electrical #1	HUB/Bookstore transformer and switchgear reconfiguration.	$400,000
Electrical #2	White Building – utility costs associated with proposed outdoor transformer pit. *(Does not include general construction costs)*	$100,000
Storm Drainage #1	Conveyance changes and peak runoff control, not including demolition costs	$75,000
Storm Drainage #2	Volume and temperature control using an 8,000 sf green roof	$250,000
Site Water Service (Domestic and Fire Suppression)	None required	$0
Sanitary Sewer	Replace existing sanitary pipe from the book store to SAMH 404 including manholes	$95,000
Telecommunications #1	Relocation of telecom utilities	$1,590,000
Telecommunications #2	New Utility Network Fiber	$6,000
Total		**$3,313,000**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HUB PARKING DECK
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GRANGE BUILDING
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WHITE BUILDING SOUTH
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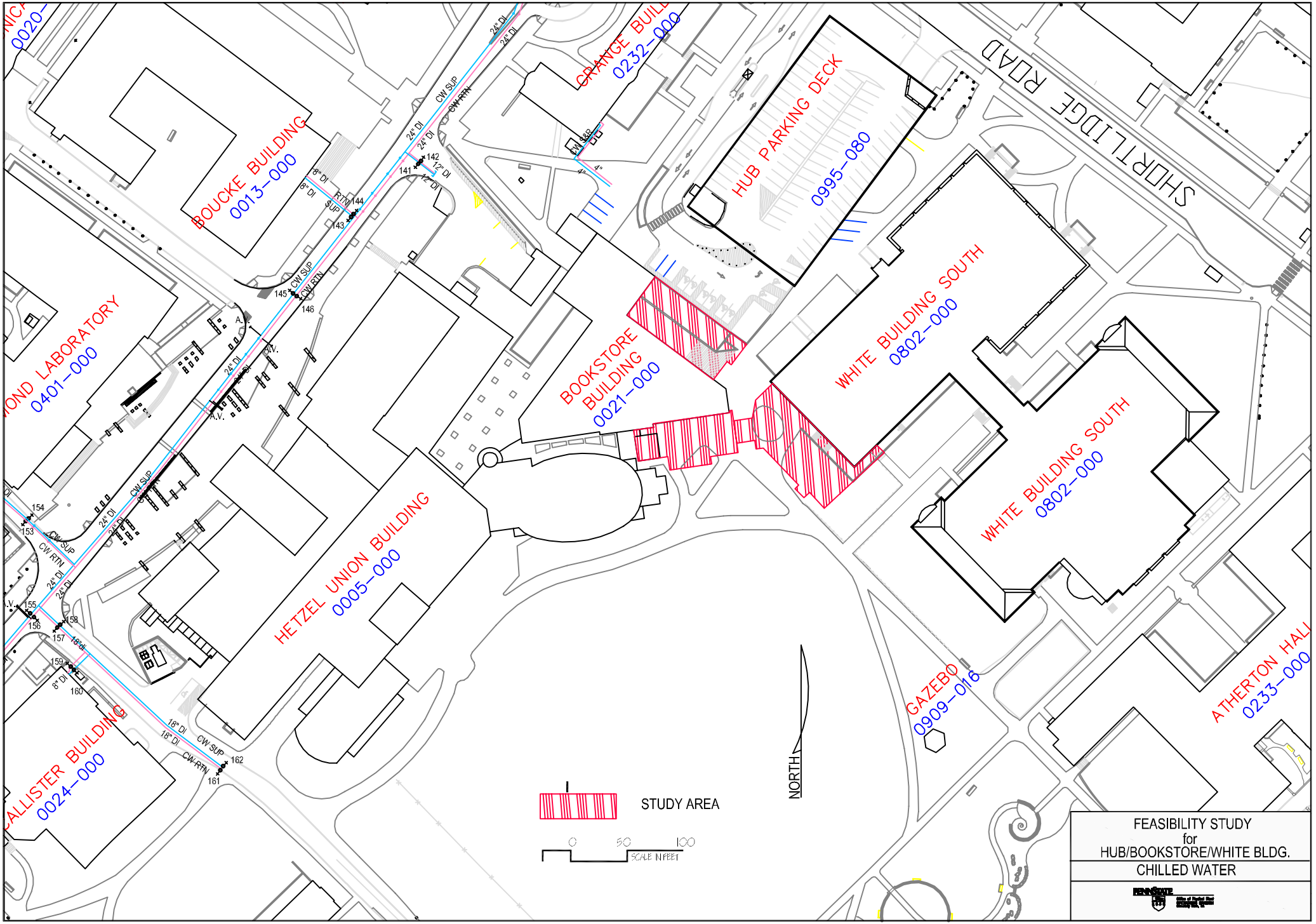
BOOKSTORE BUILDING
0021-000
HETZEL UNION BUILDING
0005-000
GAZEBO
0909-016
ATHERTON HALL
0233-000
CALLISTER BUILDING
0024-000
0 50 100
SCALE IN FEET
PROPOSED RELOCATION AREA
for
ROLLER HOCKEY RINKS
UTILITY CONCERNS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0021-000
WHITE BUILDING SOUTH
0802-000
WHITE BUILDING SOUTH
0802-000
HETZEL UNION BUILDING
0005-000
GAZEBO
0909-016
ATHERTON HALL
0233-000
NORTH
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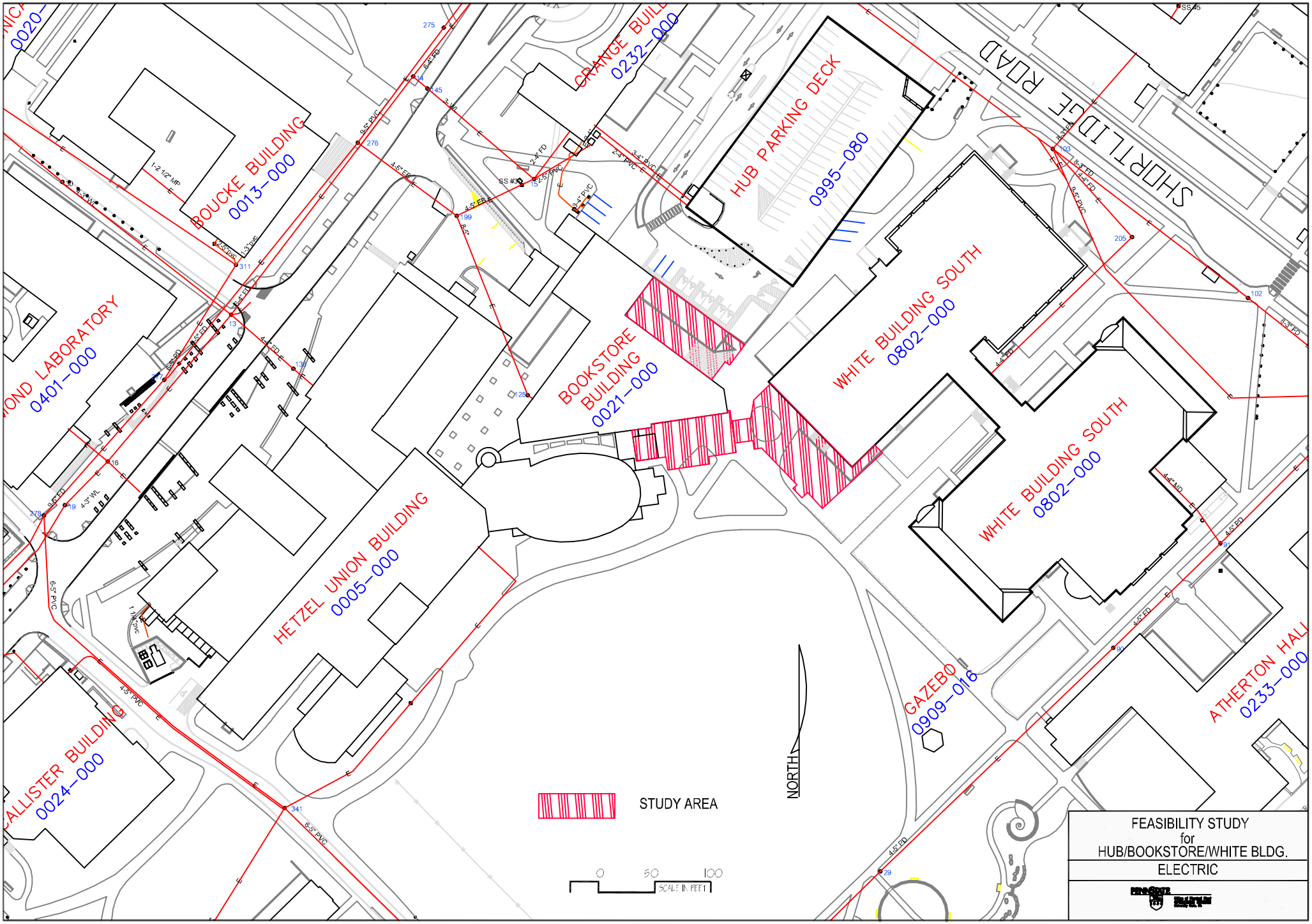
FEASIBILITY STUDY
for
HUB/BOOKSTORE/WHITE BLDG.
CHILLED WATER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BOOKSTORE
BUILDING
0021–000
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0802–000
WHITE BUILDING SOUTH
0802–000
HETZEL UNION BUILDING
0005–000
GAZEBO
0909–016
ATHERTON HALL
0233–000
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SCALE IN FEET
FEASIBILITY STUDY
for
HUB/BOOKSTORE/WHITE BLDG.
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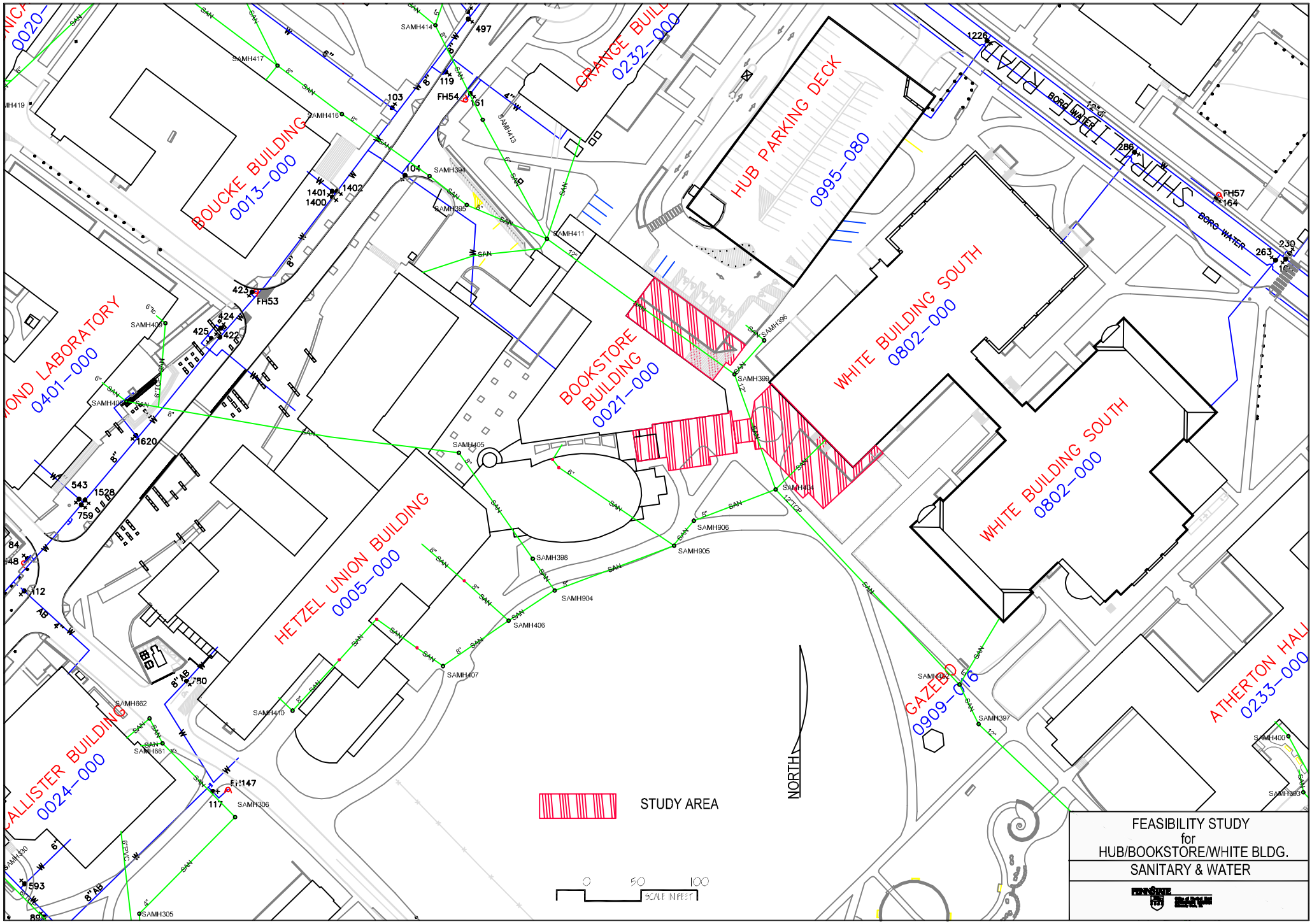
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0802-000
WHITE BUILDING SOUTH
0802-000
HETZEL UNION BUILDING
0005-000
GAZEBO
0909-016
ATHERTON HALL
0233-000
MOND LABORATORY
0401-000
ALLISTER BUILDING
0024-000
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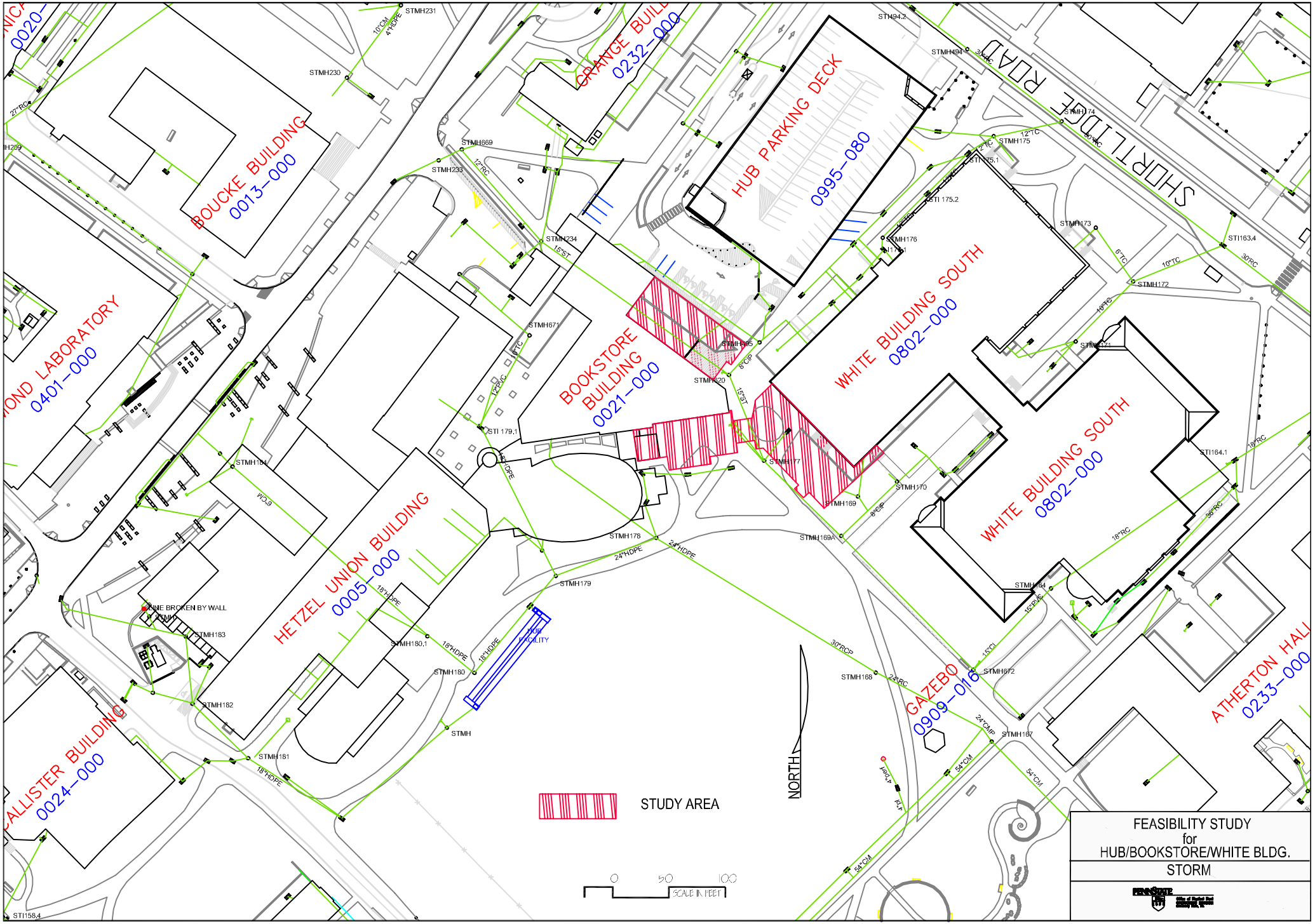
for
HUB/BOOKSTORE/WHITE BLDG.
SANITARY & WATER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0024-000
0401-000
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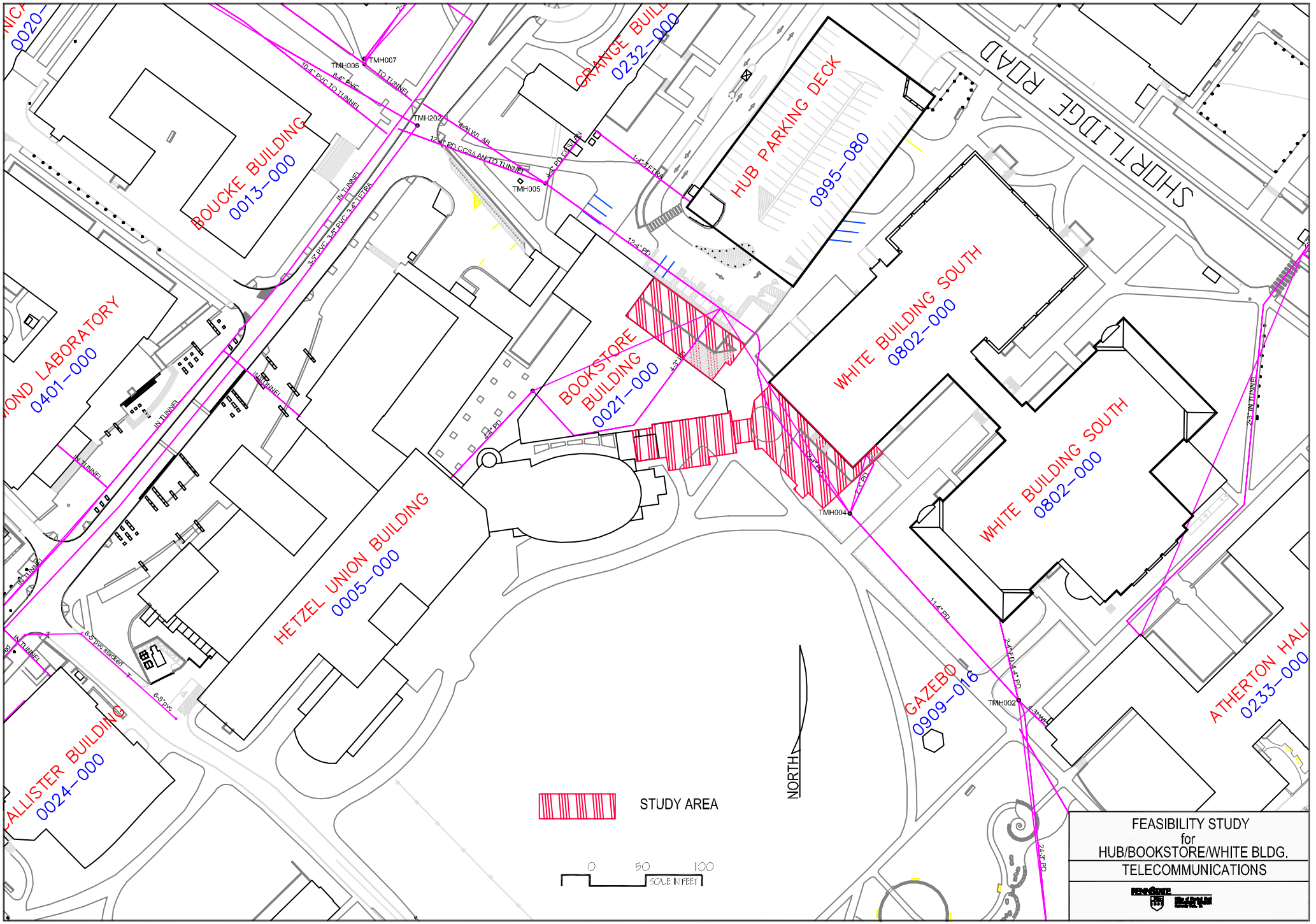
for
HUB/BOOKSTORE/WHITE BLDG.
STORM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TMH007
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TMH005
TMH004
TMH002
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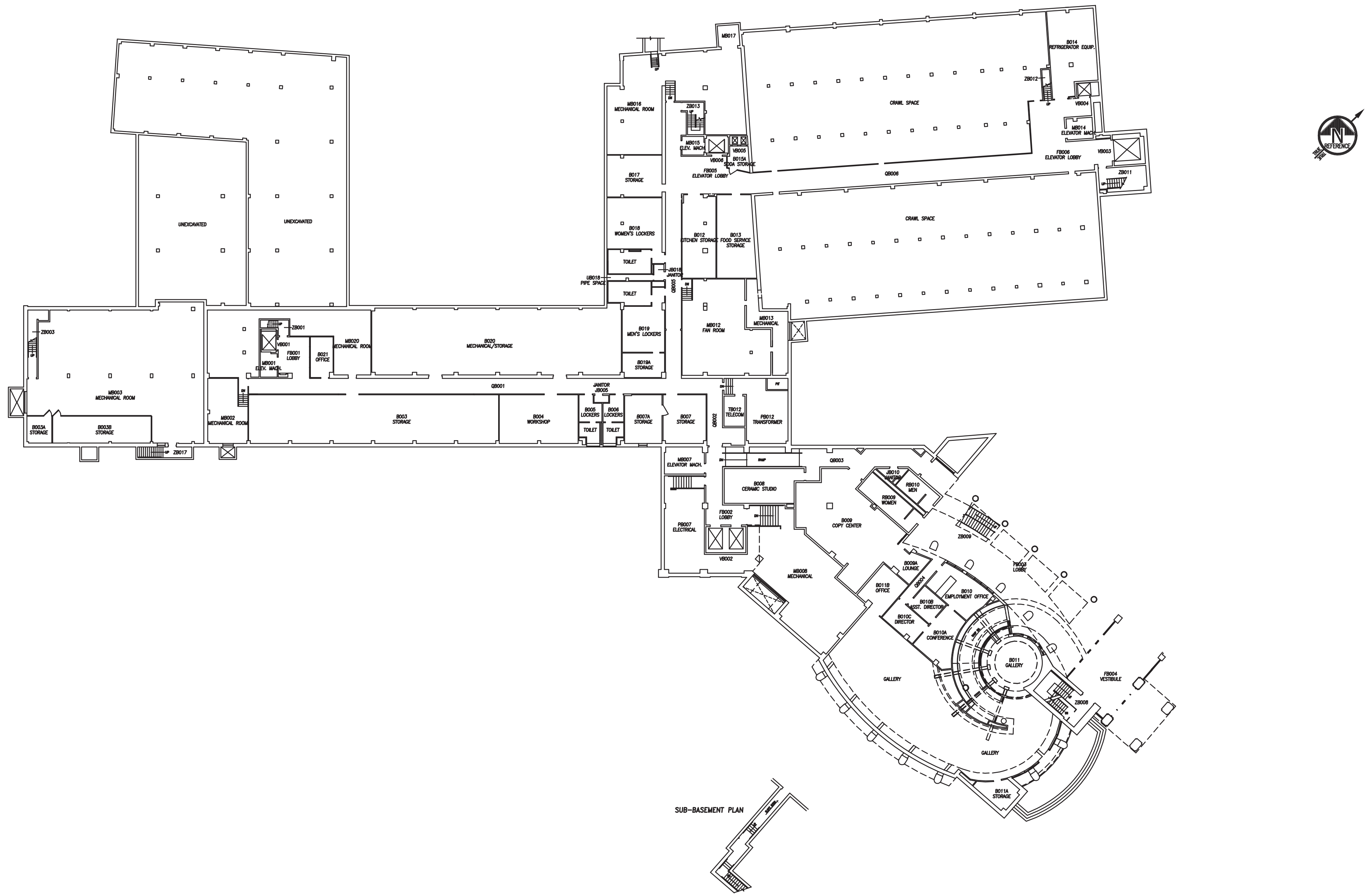
TELECOMMUNICATIONS



SCALE: 0 5' 10' 15' 20' 40'

BASEMENT PLAN

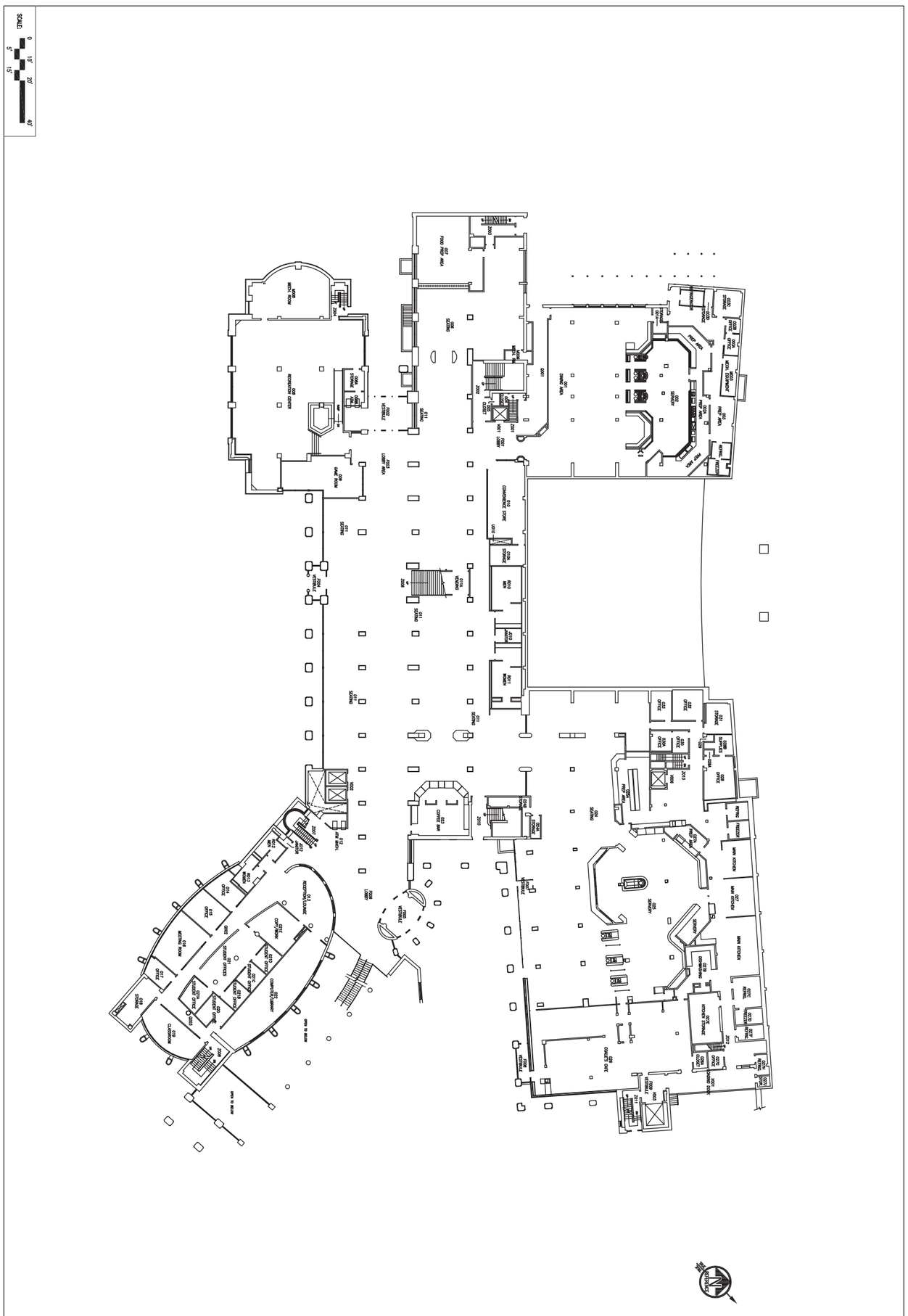
HUB–ROBESON CULTURAL CENTER

UNIVERSITY PARK CAMPUS, UNIVERSITY PARK, PA

THE PENNSYLVANIA STATE UNIVERSITY
OFFICE OF PHYSICAL PLANT

CREATION DATE: 09/29/97 REVISION DATE: 3/07/07

0005–000
BS
1 OF 5



GROUND FLOOR PLAN

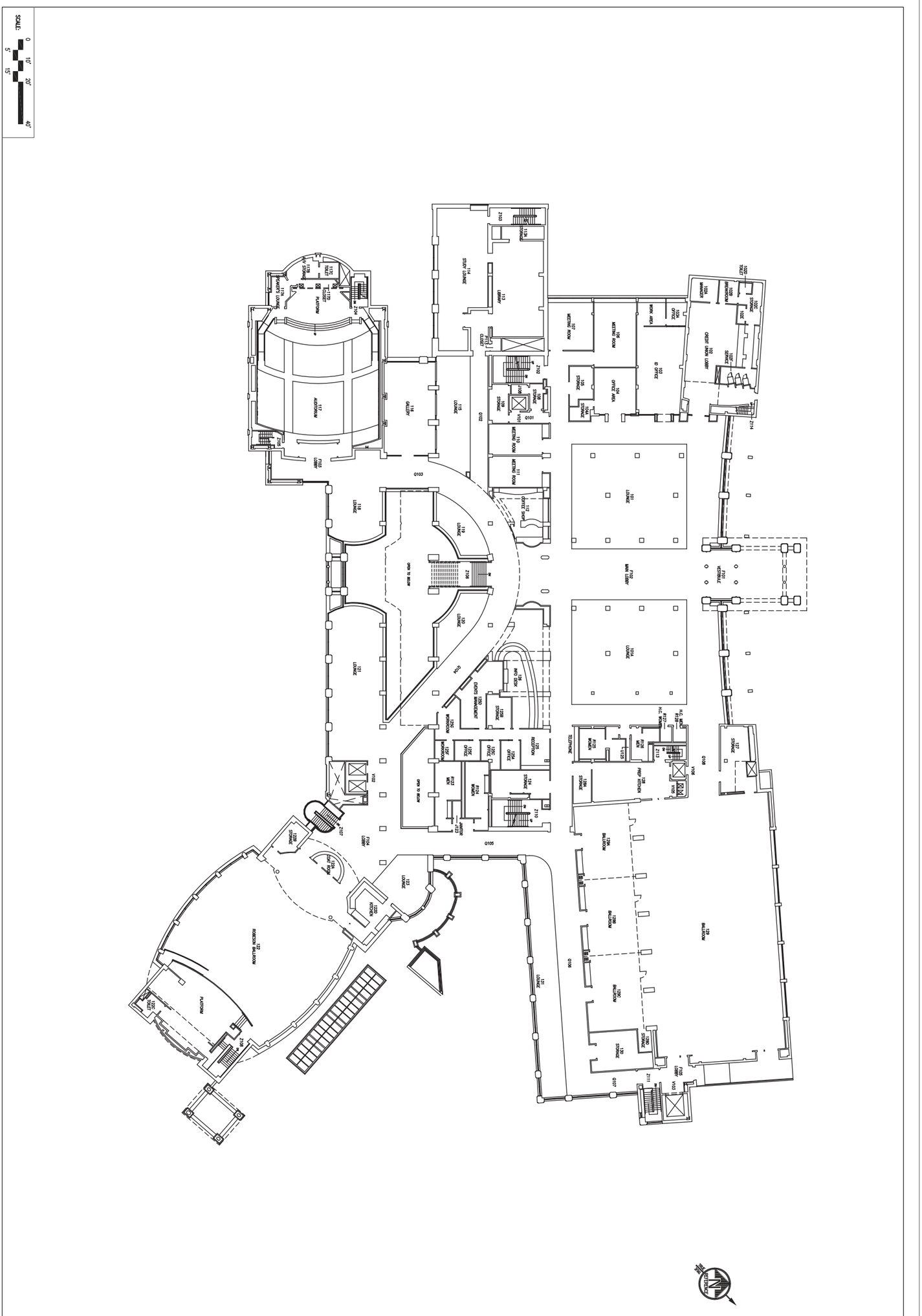
HUB–ROBESON CULTURAL CENTER

UNIVERSITY PARK CAMPUS, UNIVERSITY PARK, PA

THE PENNSYLVANIA STATE UNIVERSITY
OFFICE OF PHYSICAL PLANT

0005–000
GD
2 OF 5

CREATION DATE: 10/22/97 REVISION DATE: 01/18/01



FIRST FLOOR PLAN

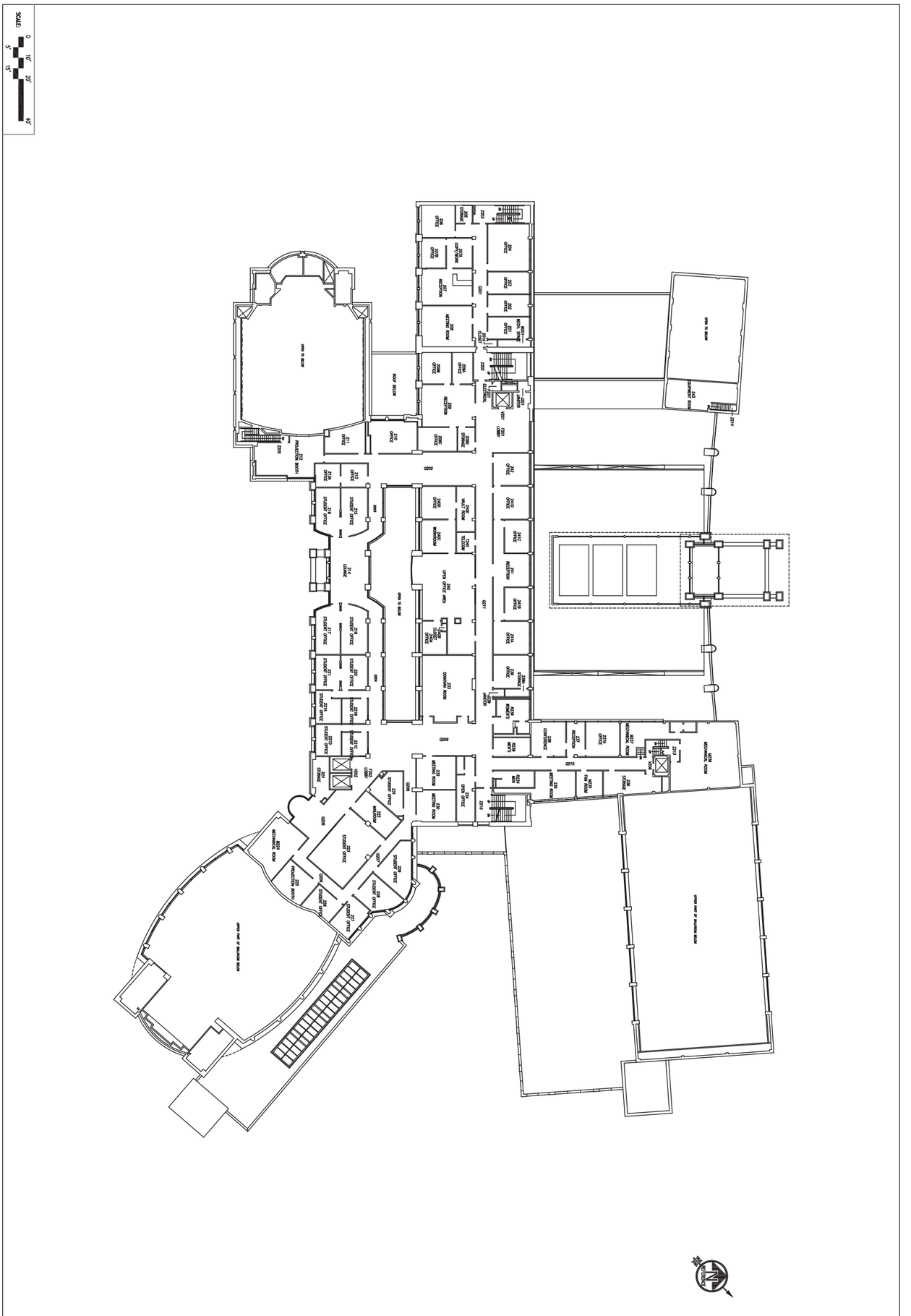
HUB–ROBESON CULTURAL CENTER

UNIVERSITY PARK CAMPUS, UNIVERSITY PARK, PA

THE PENNSYLVANIA STATE UNIVERSITY
OFFICE OF PHYSICAL PLANT

0005–000
1
3 OF 5

CREATION DATE: 09/29/97 REVISION DATE: 01/18/01



SECOND FLOOR PLAN

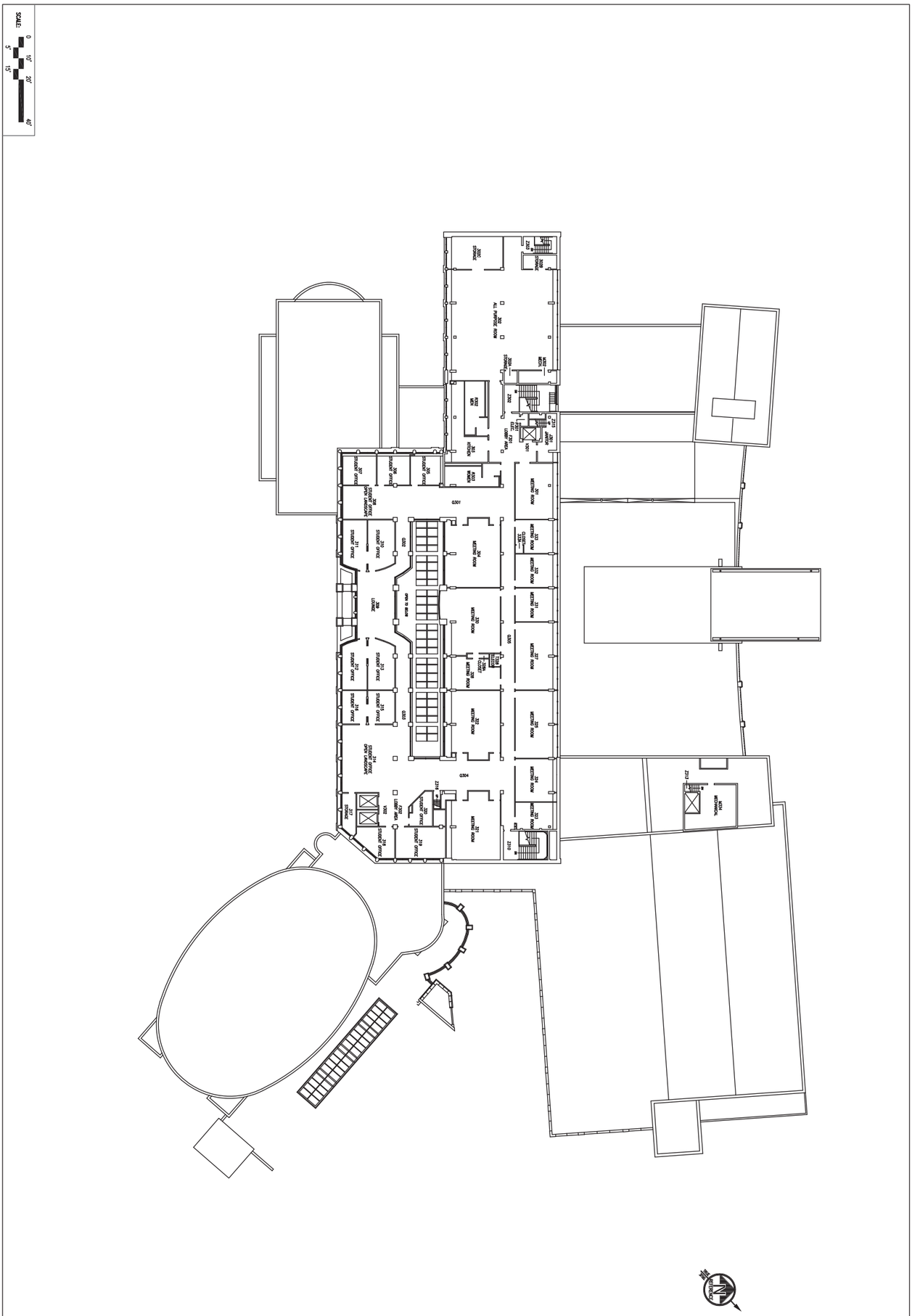
HUB–ROBESON CULTURAL CENTER

UNIVERSITY PARK CAMPUS, UNIVERSITY PARK, PA

THE PENNSYLVANIA STATE UNIVERSITY
OFFICE OF PHYSICAL PLANT

0005–000
2
4 OF 5

CREATION DATE: 10/08/97 REVISION DATE: 07/04/01



THIRD FLOOR PLAN

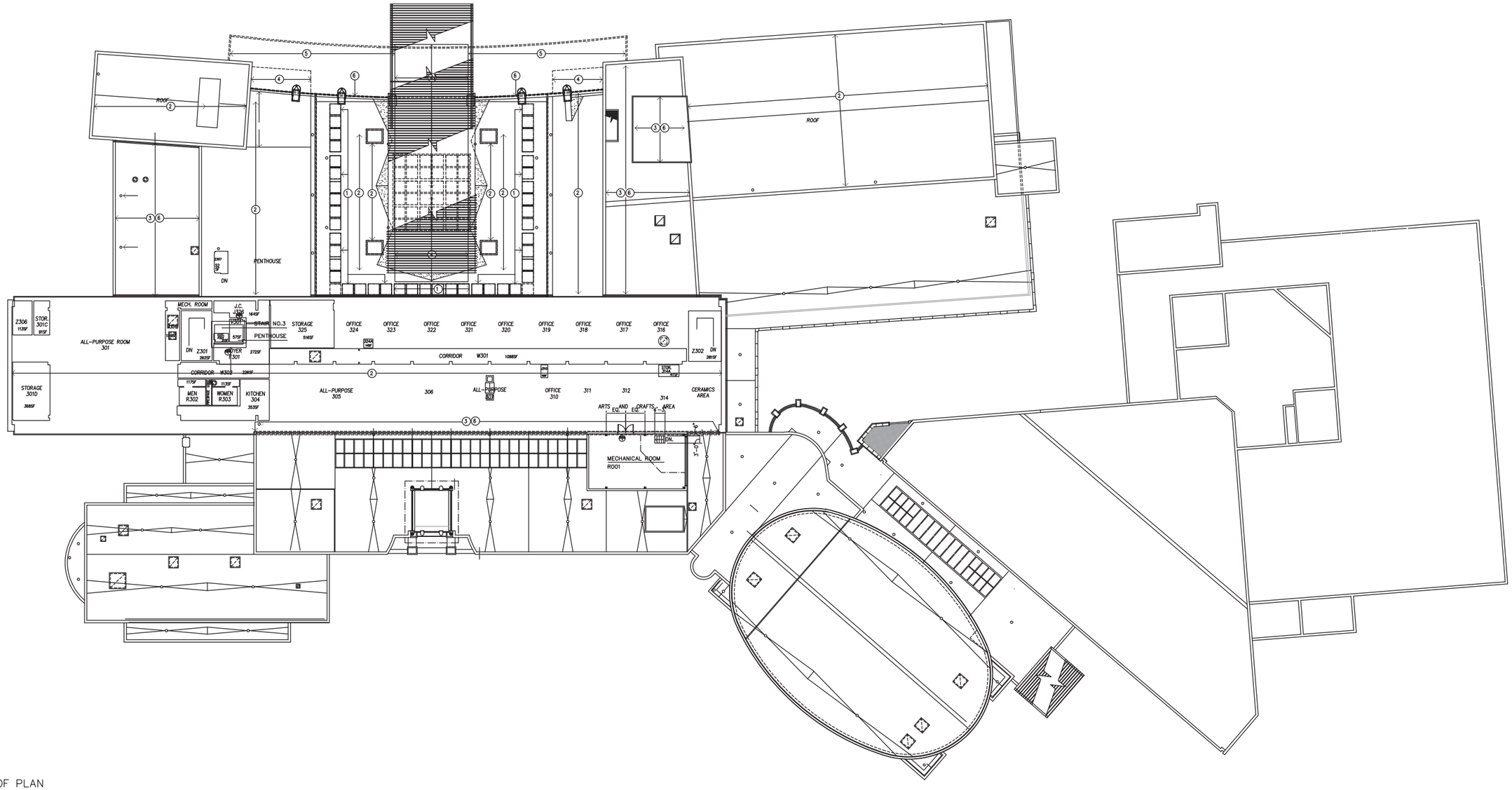
HUB–ROBESON CULTURAL CENTER

UNIVERSITY PARK CAMPUS, UNIVERSITY PARK, PA

THE PENNSYLVANIA STATE UNIVERSITY
OFFICE OF PHYSICAL PLANT

0005-000
3
5 OF 5

CREATION DATE: 09/29/97 REVISION DATE: 10/27/03



1 A1.R ROOF PLAN
1/16"= 1'-0"

PENNSTATE

1855

NON-BINDING ARCHITECT AND ENGINEER FEE SCHEDULE

Project: HUB/Robeson Center Addition and Renovation,
University Park

Firm Name: _____

	Hours	Fee
Programming/Site Analysis (confirmation)		
Schematics		
Design Development		
Construction Documents		
Bids		
Construction Administration		
Subtotal		
Reimbursements (allowance)		
Total		

Please include a listing of your billable rates that will be used for this project.

Please return completed form by February 22, 2011 @ Noon to:

David Zehngut
University Architect
The Pennsylvania State University
200 Physical Plant Building
University Park, PA 16802-1118
Phone (814) 863-3158, fax (814) 863-7757

Note: Include any costs for consultants within amounts listed, not separately.

Form of Agreement 1-P

THE PENNSYLVANIA STATE UNIVERSITY

OWNER AND PROFESSIONAL

AGREEMENT

THIS AGREEMENT made this _____ day of _____

in the year Two Thousand _____, by and between THE PENNSYLVANIA STATE UNIVERSITY, a non-profit corporation and an instrumentality of the Commonwealth of Pennsylvania, having its principal offices at University Park, Centre County, created and existing under the laws of the Commonwealth of Pennsylvania, hereinafter called the "Owner," and

_____

_____

_____

hereinafter called the "Professional," for the following Project:

_____

_____

_____.

(Title of Project should match the documents, must include project number)

In consideration of the promises set forth herein, and with intent to be legally bound, the parties agree to the terms set forth within this Agreement.

TABLE OF CONTENTS

12.8 Terms/General Conditions

ARTICLE 13: SCHEDULE OF EXHIBITS

DEFINITIONS:

Contract Documents consist of the General Conditions of the Contract, Drawings, Specifications, Addenda issued prior to receipt of Trade Contract bids, Form of Proposal, other documents listed in the Agreement and those modifications to the Contract as follows: Owner's written authorization to the Contractor for changes to the Scope of Work, a Change Order, and a written order for a minor change in the Work issued by the Professional.

Contractor means the person or entity retained by the Owner to perform Work for the project and includes the Contractor's Representative.

Construction Budget means the project construction cost limit established by the Owner.

Construction Cost Estimate means a detailed breakdown of all costs associated with the scope of work required to meet the project requirements projected to the mid-point of construction.

Final Completion means the point at which the project is fully completed in accordance with the Contract Documents (this includes *all* physical/construction obligations, administrative obligations, and punch list obligations).

The **Owner** is The Pennsylvania State University, a non-profit corporation created and existing under the laws of the Commonwealth of Pennsylvania, and an instrumentality of the Commonwealth of Pennsylvania; this term shall include the Owner and/or the Owner's authorized representative.

The **Pennsylvania State University Design and Construction Standards** means those design and construction standards as set forth at: http://www.opp.psu.edu/construction/standards/design_standards.cfm.

The **Professional** is the person lawfully licensed to practice architecture or engineering, or the firm employed to provide architectural or engineering services, for the referenced project. The term "Professional" shall mean the Professional or the Professional's authorized representative.

The **Project** shall comprise the Work defined by the Contract Documents and may include work by the Owner or other Separate Contractors, Trade Contractors, Sub-Trade Contractors or the Professional.

The **Scope of Work** means the work reasonably contemplated, required, implied, or reasonably inferable by the Contract Documents or normal standards of the building trades, whether or not explicitly contained in the Contract Documents.

Services means the services provided by the Professional and/or by consultants retained by the Professional for the Project.

Substantial Completion shall mean that stage in the progression of the Work when the Work is sufficiently complete in accordance with this Contract that the Owner can enjoy beneficial use or occupancy of the Work and can utilize the Work for its intended purpose.

Work means the construction and services necessary or incidental to fulfill the Contractor's or Professional's obligations for the Project in conformance with the agreement between the Owner and Contractor or the Owner and Professional.

ARTICLE 1: PROFESSIONAL'S RESPONSIBILTIES

1.1 General Responsibilities

1.1.1 The Professional shall furnish or provide the architectural and engineering services as outlined herein, and any other relevant data, specifications or documents, as necessary for a complete project. The Professional shall expeditiously perform said services in a manner consistent with professional skill, care, and the orderly progress of the work. In carrying out all obligations pursuant to this Agreement, including the furnishing of Construction Documents, the Professional shall in all respects conform to the applicable professional standard of care.

1.1.2 By executing this Agreement, the Professional represents to the Owner that the Professional possesses the requisite skill, expertise, and credentials to perform the required services, and that Professional is licensed to practice by all public entities having jurisdiction over the Professional and the Project. The Professional further represents to the Owner that the Professional will maintain all necessary licenses, permits, or other authorizations necessary to act as Professional for the Project until the Professional's remaining duties hereunder have been satisfied. The Professional assumes full responsibility to the Owner for the negligent acts and omissions of the Professional's consultants or others employed or retained by the Professional in connection with the Project.

1.1.3 Execution of this Agreement by the Professional constitutes a representation that the Professional has become familiar with the Project site and the local conditions under which the Project is to be implemented.

1.1.4 The Professional shall provide the services required by this agreement in conformance with the most recent project schedule approved by the Owner.

1.1.5 The Professional shall provide Professional Services, per Exhibit A and per this agreement, in accordance with The Pennsylvania State University Design and Construction Standards referenced in Exhibit C.

1.1.6 The Professional is responsible for additional submission and presentation requirements as outlined for Board of Trustee approval or other administrative approval.

1.1.7 If a Construction Manager is hired by the Owner it will be the responsibility of the Professional to collaborate and work in concert with the Construction Manager throughout the duration of the project. Furthermore, the Professional shall reconcile all cost estimates with the Construction Manager.

1.1.8 Payment of the Professional's fees, as per in Article 9, is contingent upon completion of the documents per the attached schedule.

1.1.9 Adherence to Time Schedule. The Professional shall strictly adhere to submission schedules as set forth in this Agreement. Should the Professional become aware that he will be unable to meet any of the dates set forth in this Agreement, the Professional shall immediately notify the Owner in writing.

- The Professional shall include in the notice the reason(s) for the Professional's inability to meet the date(s) and a request that the Owner amend the time schedule.
- The Owner shall review the Professional's notice and determine whether or not to amend the time schedule.

If the Owner determines that the delay is **due to the fault of the Professional**, the Owner may amend the schedule and direct the Professional to expeditiously proceed with the design of the project, in which case **the Owner may hold the Professional responsible for any costs attributable to the delay**, or

terminate the Agreement for default of the Professional, in accordance with the provisions of this Agreement.

If the Owner determines that the delay is not due to the fault of the Professional, the Owner may amend the time schedule. The Professional agrees that such an amendment of the time schedule is his exclusive remedy for a delay and that he may not make any claims against the Owner for increased costs due to the delay.

1.1.10 Building Information Modeling (BIM). The project will be designed using Building Information Modeling (BIM). Professionals shall use BIM application(s) and software to develop project designs. Digital modeling information shall be provided to the Owner and Construction Manager for the following building systems: ALL DISCIPLINES. This may include, but is not limited to, architectural, site, civil, structural, mechanical, electrical, safety and security, controls, fire suppression and alarms, building automation and other systems. This includes relevant model element information to be used for future integration into the Owner's facilities management system. This may include, but is not limited to, hyperlinks to O&M manuals, preventative maintenance schedules, and analysis data. The Professional shall develop the Facility Data consisting of a set of intelligent elements for the Model (e.g., doors, air handlers, electrical panels). This Facility Data shall include all material definitions and attributes that are necessary for the Project facility design and construction.

Professional shall use the Model to derive accurate Construction Documents. All submitted BIM Models and associated Facility Data shall be fully compatible with Autodesk Revit 9.0 or higher. The Professional shall be responsible for updating the model during design, pre-construction, construction and post-construction record documentation (including change orders, RFI and submissions). A read-only, coordinated model shall be delivered to the Construction Manager for pre-construction coordination services and as required during construction. Collaboration with the Construction Manager is of utmost importance and attendance (co-location or web teleconference) at periodic coordination meetings will be required.

The level of detail, model content, information exchange format, and party responsible for modeling and information input will be decided upon during contract negotiations. The basis for these negotiations will be the Penn State BIM Project Execution Plan template (PSU BIM Template), which is available on the OPP website.

The Professional shall develop a project specific BIM Execution Plan (BIM Plan) documenting the collaborative process in which BIM will be implemented throughout the lifecycle of the project. The BIM Plan shall utilize the requirements identified here and in the PSU BIM Template. It shall be submitted for approval by the Owner and Construction Manager prior to the schematic design phase.

Implement quality control (QC) parameters for the Model, including the procedures described in section I of the PSU BIM Template. As a minimum, provide the following: model standards checks, CAD standards checks, and other parameters.

The following uses of BIM are required: design authoring, design reviews, 3D design coordination, energy analysis, building envelope analysis, and architectural renderings. Reference Section D.2 of the PSU BIM Template.

The Professional shall perform design and construction reviews at each submittal stage to test the Model to ensure the design intent has been followed and that there are no unintended elements in the Model.

The Professional shall locate conflicting spatial data in the Model where two elements are occupying the same space. Log hard interferences (e.g., mechanical vs. structural or mechanical vs. mechanical overlaps in the same location) and soft interferences, (e.g., conflicts regarding equipment clearance, service access, fireproofing, insulation) in a written report and resolve.

The Professional shall implement a process in which BIM software uses the model and energy attributes to determine the most effective engineering methods based on design specifications. These analysis

tools and performance simulations can significantly improve the energy consumption during lifecycle operations.

The Professional shall provide submittals in compliance with BIM Plan deliverables at stages as described in section B.8 of the PSU BIM Template.

At each Design Stage, The Professional will provide PSU with the following:

- The Model (Revit) and Facility Data (various).
- A 3-D interactive review format of the Model in Autodesk Navisworks, Adobe 3D PDF 7.0 (or later), or other format per Plan requirements. The file format for reviews can change between submittals.
- A list of all submitted files. The list should include a description, directory, and file name for each file submitted. For all CAD sheets, include the sheet title and sheet number. Identify files that have been produced from the submitted Model and Facility Data.

All costs associated with BIM, including model updates during construction, shall be included in the base contract price (contract Article 9.1.1). An as-built BIM model shall be submitted by the Design Professional to the Owner upon Final Completion of the Work for the agreed upon building systems listed in this agreement. The BIM digital information is to be considered the Architect's work product and as such, under Article 7 of the contract, is ultimately the Owner's property.

Any questions or variations from this shall be discussed and agreed upon with the OPP BIM Manager or Manager of Design Services.

~~1.1.11 Contractor Design Assist. The Owner anticipates utilizing contractor/vendor design assist on some aspects of the project. If utilized, the Professional will assume the responsibility for incorporation of the design assist information into the overall design.~~

1.1.12 LEED Responsibility for Project. The Professional shall design the project to meet the LEED target certification level and shall undertake all reasonable and necessary efforts to bring about implementation of the design specifications in a manner that will meet the LEED target certification level, including coordination with the Contractor(s) and subcontractors. The Professional shall be primarily responsible for identifying the listing of credits to be achieved during the project in an effort to meet the certification level. The Professional shall also be responsible for preparing all documentation required for submission. The Professional shall use as a guide The Pennsylvania State University LEED Policy to be provided by the Owner.

1.2 Schematic Phase

The Professional shall review and comply with the Project program and The Pennsylvania State University Design and Construction Standards, both as furnished by the Owner, and shall conduct appropriate visits to the Project site. The Professional shall then provide to Owner a preliminary evaluation of the program and schedule and a preliminary construction cost estimate. The Professional shall review with the Owner alternative approaches to project design and construction, as may be required.

After the Owner has approved the Project scope, cost estimate and schedule as submitted by the Professional, the Professional shall prepare and submit to the Owner, for approval, Schematic Design Documents and any other documents required by the Owner. Refer to the Design Phase Submittal Requirements document available on the Office of Physical Plant web page for a listing of submission requirements for the Schematic Phase.

Following approval of Schematic Design Documents and any other documents required at such phase by the Owner, The Professional shall submit a Construction Cost Estimate. The estimate shall be determined by the Professional using the most accurate means available.

1.3 Design Development Phase

After approval by the Owner of the Schematic Design Documents, and any Owner-authorized changes in Project scope or construction budget, the Professional shall prepare and submit, for approval by Owner and any government authorities, Design Development drawings and any other documents required by the Owner for said approval. These drawings and other documents shall fix building size, delineate and describe the various construction materials to be used, and indicate the structural, mechanical, and electrical systems upon which the design is based. Refer to the Design Phase Submittal Requirements document available on the Office of Physical Plant web page for a listing of submission requirements for the Design Development Phase (noted as Preliminary and Design Phase in the document).

The Professional shall provide an update of the Construction Cost Estimate and schedule and advise the Owner immediately of any adjustments.

1.4 Construction Document Phase

After approval by the Owner of the Design Development Phase documents, and any further Owner-authorized changes in Project scope or construction budget, the Professional shall prepare and submit to the Owner, for approval, Construction Drawings and Specifications/Project Manual (hereinafter referred to as the "Construction Documents") required by the Owner for said approval. These Construction Documents shall delineate, detail, and completely specify all materials and equipment required to fully complete construction of the Project in every respect, consistent with current standards of the profession. The Construction Documents shall completely describe all work necessary to bid and construct the Project. Refer to the Design Phase Submittal Requirements document dated August 2006 (or any subsequent updates), available on the Office of Physical Plant web page, for a listing of submission requirements for the Construction Document Phase.

Any review and approval by the Owner of the Construction Documents shall not be deemed to diminish the Professional's obligations under this Agreement.

The Professional shall provide an update of the Construction Cost Estimate and schedule and shall advise the Owner immediately of any adjustments.

The Professional shall be responsible for completing all of the appropriate planning modules, soil and erosion control plans, and other documents which may be required.

The Professional shall be responsible for obtaining, on behalf of the Owner, whatever approvals are necessary to connect to non-Owner-owned utility lines.

The Professional shall coordinate the Construction Documents for all of the separate Prime Contracts or trade packages, as required, to protect against omissions, conflicts, overlaps, or duplications of any items of work or materials on the Project.

The Professional shall coordinate the services of all design consultants for the Project, including those retained by the Owner.

1.5 Bidding Phase

After approval by the Owner of the Construction Documents, the Professional shall prepare and distribute all necessary bidding correspondence and documents, evaluate bid proposals, attend pre-bid or pre-award meetings, clarify the scope or intent of the Construction Documents, evaluate proposed subcontractors, and assist in the preparation of construction contracts.

1.6 Construction Phase

The Professional shall issue a set of construction documents that incorporate all bidding documents and revisions per addenda prior to the start of construction.

The Professional's responsibility under this Agreement for Construction Phase services commences with the execution of the Contract(s) between the Contractor(s) and the Owner and terminates no earlier than the expiration of the Contractor's one-year guarantee period against defective materials, equipment, and/or workmanship. This paragraph is not intended to, and shall not be construed as, affecting in any way the calculation of any applicable legal statutes of limitation.

Administration, by the Professional, of the construction contract(s) shall be as outlined below and in accordance with the General Conditions of the Contract for Construction. The Professional agrees to perform all of its obligations under this Agreement consistent with said General Conditions. The extent of the Professional's duties and responsibilities and the limitations of its authority as specified thereunder shall not be modified without written agreement between the Owner and the Professional.

The Professional shall not be responsible for the Contractor's construction means, methods, techniques, sequences, or procedures, or for safety precautions and programs in connection with the work. However, if the Professional has actual knowledge of safety violations, the Professional shall immediately alert the relevant Contractor or Subcontractor and shall give prompt written notice to the Owner.

The Professional shall not be responsible for the Contractor's failure to carry out the Work in accordance with the Contract Documents. The Professional shall not be deemed to have control over or charge of acts or omissions of the Contractor, Subcontractors, or their agents or employees, or any other persons performing portions of the Work. However, the Professional shall provide all required assistance to the Contractor, Subcontractors and/or agents and employees in order to facilitate the appropriate and timely performance of the Work. Furthermore, Professional is responsible for notifying the Owner and the Contractor of the Contractor's failure to carry out the Work in accordance with the Contract Documents upon observing such failure by the Contractor.

1.6.1 Schedule of Values. Upon receipt, the Professional shall carefully review and examine the Contractor's Schedule of Values, together with any supporting documentation or data which the Owner or the Professional may require from the Contractor. The purpose of such review and examination will be to protect the Owner from an unbalanced Schedule of Values which allocates greater value to certain elements of the Work than is indicated by such supporting documentation or data or than is reasonable under the circumstances. If the Schedule of Values is found to be inappropriate, or if the supporting documentation or data is deemed to be inadequate, and unless the Owner directs the Professional to the contrary in writing, the Schedule of Values shall be returned to the Contractor for revision or supporting documentation or data. After making such examination, if the Schedule of Values is found to be appropriate as submitted or, if necessary, as revised, the Professional shall sign the Schedule of Values thereby indicating the Professional's informed belief that the Schedule of Values constitutes a reasonable, balanced basis for payment of the Contract Price to the Contractor. The Professional shall not sign such Schedule of Values in the absence of such belief unless directed to do so, in writing, by the Owner. The Professional shall provide the Owner with a signed copy of the Schedule of Values after approval.

1.6.2 Access to Work. The Professional and its authorized representatives shall have full and safe access to the work at all times.

1.6.3 Visits to the Site/Inspection. The Professional and any consultants retained by the Professional, or an authorized and qualified representative, shall visit the Project periodically as required by the Owner during periods of active construction in order to review the progress of the work, and take such actions as are necessary or appropriate to achieve the requirements of the Construction Documents in the work of the responsible Contractors, including advising the Owner's representatives as to particular matters of concern. It shall also be the duty of the Professional to have its Consultants visit the site periodically as required during their respective Phases of the work, at such intervals as may reasonably be deemed

necessary by the Owner and the Professional, to review their respective Phases of the work in order to achieve the requirements of the Construction Documents.

The purpose of such site visits and reviews will be to determine the quality, quantity, and progress of the Work in comparison with the requirements of the Construction Documents. In making such reviews, the Professional shall exercise care to protect the Owner from defects or deficiencies in the Work, from unexcused delays in the schedule, and from overpayment to the Contractor. Following each such review, the Professional shall submit a written report within (5) calendar days of such review, together with any appropriate comments or recommendations, to the Owner.

Whenever, in the Professional's opinion, it is necessary or advisable, the Professional shall require special inspection or testing of the Work in accordance with the provisions of the Construction Documents whether or not such Work is fabricated, installed, or completed. The Professional shall advise the Owner of all such occurrences requiring special inspection or testing of the Work and shall obtain prior approval from Owner before any funds are committed for inspection, beyond what has already been budgeted.

1.6.4 Approval of Payment to Contractors. Based on the Professional's review of the Project, the Professional will recommend, within seven (7) calendar days after receipt, approval or rejection of payment on the Application-Certificate of Payment. Approval of the Certificate of Payment shall constitute a representation by the Professional to the Owner that the work has progressed to the point indicated on the Application, and that to the best of the Professional's knowledge, information, and belief, the quality of the work is in accordance with the Contract Documents.

The Professional shall make recommendations to the Owner for the withholding of any payment, or portion thereof, due to inadequate progress and/or performance of the Contract.

The Professional agrees that time is of the essence with respect to this provision.

1.6.5 Interpreter. The Professional will be, in the first instance, the interpreter of the requirements of the Contract Documents. The Professional will, within a reasonable time as determined by the Owner, render such interpretation as it may deem necessary for the proper execution or Progress of the Work. All interpretations by the Professional shall be defined in writing and/or by drawing and shall be consistent with the intent of the Contract Documents.

In addition to the above, the Professional shall be required to attend, at the determination of the Owner, any and all Project site conferences dealing with interpretation of the Contract Documents.

The Professional's decisions, with Owner's prior approval, shall in matters relating to aesthetic effect be final if consistent with the intent of the Construction Documents.

1.6.6 Review of Contractor's Shop Drawings and Materials. The Professional shall review, approve, and process, subject to the right of review by the Owner, Shop Drawings to verify compliance with the Contract Documents and all product data, samples, materials, and other submissions of the Contractor required by the Contract Documents for conformity to and in harmony with the design concept of the Project and for compliance with the requirements of the Contract Documents. The Professional shall not approve any substitution of specified materials and/or equipment without first obtaining the Owner's consent. Approval by the Professional of the Contractor's submittal shall constitute the Professional's representation in accordance with Article 5 of the General Conditions of the Contract for Construction to the Owner that such submittal is in conformance with the Contract Documents.

When the Contractor is required by the Contract Documents to provide professional certification of performance characteristics of materials, systems, or equipment, the Professional shall be entitled to rely upon such certification to establish that the materials, systems, or equipment will meet performance criteria required by the Contract Documents.

Based on the priorities of the construction schedule, the Prime Contractor(s) shall submit a shop drawing submittal schedule on or before the Second Regular Job Conference. The Professional shall review and check the shop drawing submittal schedule within fourteen (14) calendar days of receipt from the Contractor.

The Professional shall return the approved shop drawings, or detailed notation for resubmission, if required, within fourteen (14) calendar days after receipt from the Contractor unless mutually agreed otherwise by the Professional, Owner, and Contractor. The Professional shall act on any resubmissions within seven (7) calendar days of receipt thereof unless mutually agreed otherwise by the Professional, Owner, and Contractor. A detailed log shall be maintained by the Professional as to time of receipt of the shop drawings and time of return, with adequate notes as to their disposition.

Refer to 1.6.12 for electronic scanning and submission requirement of approved project shop drawings at the completion of the project.

The Professional is responsible to incorporate into the shop drawings comments by the Owner or Owner's authorized representative prior to the shop drawings being returned to the Contractor.

The Professional agrees that time is of the essence of this provision.

1.6.7 Job Conference Reports. The Professional shall take and retain an accurate and complete record of the biweekly Job Conference meetings and shall prepare and distribute summary minutes in a format approved by the Owner of each meeting within five (5) calendar days to the Owner, the Contractors, and all other interested parties.

1.6.8 Change Orders. The Professional shall review all Change Order requests within seven (7) calendar days and shall advise Owner, in writing, with respect to the necessity or advisability of same. The Professional shall also determine whether the cost is fair and reasonable for the additional work associated with the Change Order. In so doing, Professional shall provide all pertinent documents and data to the Owner, who shall make all decisions regarding approval or rejection of Change Order requests. The Professional shall maintain an appropriate Change Order log. The Professional may, after consultation with the Owner, authorize minor changes in the Work which do not involve an adjustment in the Contract sum or an extension of the Contract time and which are consistent with the intent of the Contract Documents.

1.6.9 Rejection of Work. The Professional is authorized and obligated to reject work which does not conform to the Contract Documents and shall immediately notify the Owner to stop a Contractor's work whenever, in the Professional's reasonable opinion, such action is necessary for the proper performance of the Construction Contract Work. The Professional shall not be liable to the Owner for the consequences of any recommendation made by the Professional in good faith, and in the exercise of due care in recommending to stop or not to stop the work.

1.6.10 Substantial Completion, Final, and One-Year Guarantee Inspections. The Professional and its consultants shall participate in Substantial Completion and Final Inspections to affix the dates of Substantial and Final Completion and shall concur in the report of Final Completion to the Owner prior to approving the Contractor's application for Final Payment. The Professional shall produce the punch list document and provide any direction, coordination or follow-up that may be necessary to correct any deviation from the specifications and requirements set forth in the Contract Documents and Construction Documents. The Professional shall also acquire for Owner the Certificate of Occupancy.

The Professional and its consultants shall participate in an inspection prior to the expiration of the one (1) year guarantee period against defective materials, equipment, and/or workmanship to determine any defects in materials, equipment, and/or workmanship since the date of Substantial Completion. The Professional shall produce the (1) year guarantee period punch list document for distribution to the Contractor(s) and provide follow-up to verify all items are completed to the satisfaction of the Owner.

1.6.11 Operations and Maintenance Data. At the time of Substantial Completion of the Project, the Professional shall review and approve all required close-out documentation required per the Specifications including, but not limited to, manufacturers' operating instructions, maintenance instructions, certificates, warranties, guaranties, and other pertinent operating and maintenance data.

The Professional shall electronically scan all reviewed and approved Operation and Maintenance data being returned to the Contractor and provide a complete set of Operation and Maintenance data for the Project in electronic .pdf format (organized by building system) to the Owner within (1) month after receipt from the Contractor.

1.6.12 Record Drawings. At the time of Final Completion of the Project, the Professional shall collect from the Prime Contractor(s) their complete sets of as-built drawings and will, within 30 days after receipt from the Contractors, transpose all the changes recorded by the Contractors, onto a full set of reproducible drawings which shall become the record (as-built) drawings of the Project. The record drawings must also be put on electronic media compatible with the Owner's ACAD system. The Professional shall submit the as-built drawing set to the Owner in both ACAD dwg format and electronic pdf format (if project is utilizing Building Information Modeling an additional record drawing format shall be required and approved by the Owner).

The Professional shall electronically scan all approved shop drawings being returned to the Contractor and provide a complete set of the approved shop drawings for the Project in electronic pdf format (organized by CSI division) to the Owner within (1) month after Substantial Completion of the project.

1.6.13 Corrections. The Professional shall, without additional compensation, promptly correct any errors, omissions, deficiencies, or conflicts in its work product.

1.6.14 Errors and Omissions. If it becomes necessary during the course of construction to issue change orders which increase the cost of the Project and which are due to an error or omission by the Professional in providing plans, drawings, specifications or coordination for the Project, the Professional shall be assessed in an amount equal to the difference between the amount of the change order and what the Owner would have paid had the error or omission not occurred. Where applicable, the assessment shall include any administrative costs incurred by the Owner and costs associated with removal or replacement of work necessary in order to implement the change order. An omission change order is one which results from the Professional's breach in the applicable professional standard of care, resulting in a failure to include required features, items or design elements in the plans, drawings or specifications. An error change order is one which results from the Professional's breach in the applicable professional standard of care, resulting in mistakes or deficiencies in the plans, drawings or specifications.

At the completion of the project, the parties shall exercise good faith in seeking to amicably resolve any disputes that may exist regarding change orders. In the event that the parties are unable to reach an amicable resolution, the dispute resolution provision of Article 12.1 shall apply.

ARTICLE 2: ADDITIONAL RESPONSIBILITIES OF PROFESSIONAL

2.1 Compliance

The Professional is responsible for the compliance of the Construction Documents with all applicable permits, laws, regulations, and ordinances of all commissions, agencies and governments, federal, state and local, insofar as they are applicable to, and have jurisdiction over, the Project. The Professional shall make all required submittals with the advance knowledge of the Owner to, and shall obtain all required approvals from, the applicable agency in a timely manner so as not to cause delays to the Project. The Professional shall also attend all hearings/meetings required for securing necessary approvals and permits.

The Professional shall be responsible for producing a submission document set for approval by Labor and Industry as required by the Commonwealth of Pennsylvania to obtain the necessary building permit.

The Professional shall also be responsible for additional submissions as required by the Labor and Industry Building permit processes and procedures throughout the project design and construction.

2.2 Cooperation With Local Bodies

During the design of the Project, the Professional shall keep informed and comply with the requirements of all local zoning, planning, and supervisory bodies. Should these requirements substantially increase the cost of the Project, or should any required approvals be withheld by the local bodies, the Professional shall immediately notify the Owner.

2.3 Proprietary Items, Copyrights, Patents

The Professional shall not include in the design of the Project unless directed by the Owner any equipment, material, or mode of construction which is proprietary or which contains a copyright or patent right relating to designs, plans, drawings, or specifications, unless the equipment, material, or mode of construction is different and fairly considered superior in quality and performance. If the Professional includes in the design of the Project any equipment, material, or mode of construction which is proprietary, it shall have prior approval by the Owner and it shall only be because the item is different and fairly considered superior in quality and performance, and not for the purpose of preventing or restricting competitive bidding.

2.4 Steel Products Procurement Act

The Professional is responsible for compliance with the Pennsylvania Steel Products Procurement Act, 73 P.S. § 188, *et. seq* ("the Act'). In the event that Professional selects and/or approves any steel products (as defined in the Act) for use in the Project, Professional shall delineate, list and approve as acceptable only steel products that are in compliance with the Act. If Professional determines that any steel products are not produced in the United States in sufficient quantities to meet the requirements of the Project or Contract Documents, Professional shall notify the Owner.

ARTICLE 3: OPTIONAL ADDITIONAL SERVICES

Unless required by the Project Scope, the services performed by the Professional, Professional's employees, and Professional's consultants as outlined in this Article are not included in Basic Services and shall be paid for by the Owner as provided in this Agreement in addition to the compensation for Basic Services.

None of these services shall be provided by the Professional, whether they are requested by the Owner or required due to circumstances unknown at the time of the execution of the Agreement, until approval in writing has been given by the Owner.

3.1 Project Representation

If more extensive representation at the site by the Professional is required by the Owner than is provided for under Basic Services, Paragraph 1.6, Construction Phase, the Professional shall provide one or more Project representatives to assist in carrying out such additional on-site representation.

Additional Project representative(s) shall be selected, employed, and directed by the Professional with the approval of the Owner, and the Professional shall be compensated therefore as mutually agreed, in advance, between the Owner and the Professional. Such supplemental agreement letter shall also delineate the duties and responsibilities of the additional Project representative(s).

3.2 Revisions to Approved Drawings and Specifications Prior to Construction Phase

3.2.1 Making revisions to the drawings and specifications requested by the Owner subsequent to the Owner's approval of the Construction Documents as outlined in Paragraph 1.4, Construction Document Phase, unless required to keep the estimated Construction Costs within the amount budgeted for same.

3.2.2 Making revisions to the drawings and specifications required by the enactment or revisions of codes, laws, or regulations subsequent to the completion of the Construction Documents as approved by the Owner.

3.3 Preplanning

Providing special analysis of the Owner's needs such as selection, planning, and development of the site; economic, demographic, and/or financial feasibility; preliminary design criteria and budget estimates; or other special studies except as herein provided as part of Basic Services.

3.4 Specialized Consultants

Providing unusual or specialized Consultant services other than those consistent with the inherent requirements of the Project scope and required to meet the functional needs of the Project.

3.5 Surveys

Providing a complete topographic survey and/or related aerial photography, ground control, photogrammetric plotting, property boundary survey, and the preparation of a metes and bounds legal description and a related plot.

3.6 Special Studies

Providing services related to the preparation of Environmental Assessments and/or Environmental Impact Statements, Energy Impact Statements, Analysis, or Feasibility Studies as may be required by local, state or federal government agencies, provided such services are in addition to the Project scope requirements.

3.7 Other Services

Providing services mutually agreed to that are not otherwise included in this Agreement.

ARTICLE 4: INDEMNIFICATION

To the fullest extent permitted by law, The Professional shall indemnify and hold harmless the Owner and the Owner's respective officers, directors, trustees, agents, servants, and employees from and against any and all liability, claims, losses, costs, expenses or damages, including reasonable attorneys' fees, costs and expenses, for property damage, bodily injury or death, that may arise as a result of the performance or failure to perform services and duties pursuant to this Agreement, but only to the extent caused by a failure to conform to the applicable professional standard of care by the Professional or Professional's agents, employees or consultants, or anyone employed directly or indirectly by any one of them or by anyone for whose acts any of them may be liable. Nothing in this indemnity section shall be construed to limit the insurance obligations agreed to herein.

ARTICLE 5: OWNER'S RESPONSIBILITIES

5.1 Basic Information

The Owner shall provide the Professional all information available at the time regarding requirements for the Project. Such information shall include:

5.1.1 A Project Program setting forth the Owner's objectives, space requirements and relationships, special equipment, and systems and site requirements.

5.1.2 A Project Budget including the amount allocated for the Construction Cost and all other anticipated costs and expenses.

5.1.3 A Project Schedule setting forth the times allotted for the Design and Construction Phases of the Project.

If the information furnished is not sufficient for the process of initiation of design solutions, the Professional shall notify the Owner immediately.

5.2 Surveys

The Owner shall furnish to the Professional, as available, surveys describing (as applicable) grades and lines of streets, alleys and pavements; the location of all rights-of-way restrictions, easements, encroachments, zoning classification, boundaries and contours of the site; location, dimensions and other necessary data pertaining to any existing buildings, other improvements and trees; information concerning existing utilities throughout the site, including inverts and depth; and shall establish a Project benchmark.

5.3 Geotechnical Engineering Services

The Owner shall pay the costs of all geotechnical engineering services required for the Project and requested by the Professional and Owner. Such services shall include, but are not limited to, tests borings, samples, field and laboratory reports, final soil reports and logs, and foundation engineering evaluations and recommendations.

5.4 Miscellaneous Tests, Inspections, and Reports

The Owner shall furnish, at the Owner's expense, air and water pollution, hazardous material, environmental, and any other miscellaneous laboratory tests, inspections, and reports as may be required.

5.5 Approval or Disapproval of Design Work

Any approval or failure of the Owner to disapprove or reject design work submitted by the Professional shall not constitute an acceptance of the work such as to relieve the Professional of his full responsibility to the Owner for the proper and professional performance of all design work on the Project.

5.6 Owner Response

The Owner shall act with reasonable promptness on all submissions from the Professional, which require action by the Owner, in order to avoid unreasonable delay in the progression of the Project through the various Phases outlined in Article 1.

5.7 Notice of Nonconformance

The Owner shall notify the Professional immediately if the Owner becomes or is made aware of any fault or defect in the Project or nonconformance by any party with the Contract Documents.

5.8 Copies of Owner's Documents

The Owner shall supply the Professional with copies of the Owner's Form of Agreement between Owner and Contractor and General Conditions of the Contract for Construction for inclusion, by the Professional, in the Bidding Documents. It shall be the Professional's responsibility to access, review, and implement The Pennsylvania State University Design and Construction Standards information provided by the Owner on the Office of Physical Plant web page. Refer to web page content listing in Exhibit C.

5.9 Preconstruction Services

The Owner intends to independently retain a Construction Management firm to provide preconstruction and construction services. The Professional will assist the Owner in reviewing proposals and allow for two full days of meetings to interview and rank prospective construction management firms.

ARTICLE 6: CONSTRUCTION COST

6.1 Project Cost Determination

The Construction Cost for all work described in the Construction Documents, as approved by the Owner shall be determined as outlined below, with precedence in the order listed:

6.1.1 For completed construction, the total cost to the Owner for such construction work less the amount of any change order work necessary because of errors or omissions on the part of the Professional as defined in Subparagraph 1.6.14 Errors and Omissions.

6.1.2 If the Project is not constructed, the sum of the lowest bona fide bids(s) received for all of the work, providing said bids do not exceed the fixed limitation of Construction as defined in Paragraph 9.1.4 or as amended by written agreement by the Owner and Professional as the basis for design. If such bids exceed the limitation previously agreed upon, said limitation shall become the basis of cost.

6.1.3 If bids are not received, the latest Construction Cost Estimate prepared by the Professional, provided such estimate does not exceed the fixed limitation of construction as defined in Paragraph 9.1.4 or as amended by written agreement by the Owner and Professional as the basis for design.

6.2 Notification

It shall be the Professional's responsibility to promptly notify the Owner if, in the Professional's opinion, the Project cannot be designed and constructed within the fixed limitation on the cost of construction as authorized by the Owner. It is the Professional's responsibility to so notify the Owner as soon as such a situation becomes, or should have become, apparent to the Professional.

6.3 Owner Options

If, without written acknowledgment by the Owner, the Professional permits the Construction Contracts to be bid, and if the fixed limitation on the cost of Construction is exceeded by the lowest bona fide bid(s) or negotiated proposal, the Owner may: (1) give written approval of an increase in such fixed limit; (2) authorize rebidding or renegotiating of the Project; (3) terminate the Project and this Agreement in accordance herewith; or (4) cooperate in revising the Project scope or quality, or both, as required to reduce the construction cost. In the case of (4), the Professional, without additional charge to the Owner, shall consult with the Owner and shall revise and modify the Construction Documents as necessary to achieve compliance with the fixed limitation on construction cost. Absent negligence on the part of the Professional in making its estimates of probable construction cost, such modifications and revisions shall be the limit of the Professional's responsibility arising from the establishment of such fixed limitation of construction costs, and having done so, the Professional shall be entitled to compensation for all other services performed, in accordance with this Agreement.

If, after notification to the Owner by the Professional that the Project cannot be designed and constructed within the fixed limitation on the cost of construction, the Professional is by written authorization by the Owner instructed to proceed without a change in the Project program, design, or in the fixed limitation on the cost of construction, the Professional shall not be responsible for the cost of any subsequent redesign.

ARTICLE 7: OWNERSHIP AND USE OF DOCUMENTS

All preliminary studies, Construction Documents, as-built documents, record drawings, special requirements, cost estimates, and all other data compiled by the Professional under this Agreement shall become the property of the Owner and may be used for any purpose desired by the Owner except to use for the construction of an identical facility not covered by this Agreement. The Professional shall not be liable for any reuse of these documents by the Owner.

ARTICLE 8: PROFESSIONAL'S EXPENSES

8.1 Billable Hourly Rates

8.1.1 Direct personnel expense is defined as the direct salaries of the principals, associates, and employees of the firm who are assigned to and are productively engaged on the Project, including clerical employees.

8.1.2 Billable hourly rates for this project are included in the personnel listing in Exhibit B. Billable hourly rates shall be the direct personnel expense rate for any principal's time and a multiple of a maximum of (2.5) times the direct personnel expense per hour for the Professional's employees which shall include mandatory and customary benefits such as employment taxes, statutory employee benefits, insurance, sick leave, holidays, vacations, pensions, and similar contributions and benefits.

8.1.3 The billable hourly rates set forth in Exhibit B may be adjusted annually, subject to the Owner's approval, in accordance with generally accepted salary review practices of the profession. Payroll certification shall be provided by the Professional to the Owner upon demand.

8.2 Reimbursable Expenses

Reimbursable expenses are in addition to compensation for Basic and Additional Services and include those expenses as follows for which the Professional shall be reimbursed a not-to-exceed amount for his direct "out-of-pocket" costs (no mark-up allowed on reimbursable expenses). Reimbursable expenses shall be submitted with supporting documentation. Where requested or authorized by the Owner, the following shall be reimbursable:

8.2.1 Out-of-town and out-of-state travel expenses and any necessary fee or permit payment required and paid to any governing body or authority having jurisdiction over the Project. Air travel expenses shall be approved in advance by the Owner. Maximum individual per diem expenses for travel to the job site shall be based on the Owner’s allowable per diem for lodging and meals for that location.

8.2.2 Expense of reproductions including reproductions of record drawings, postage and handling of Drawings, Specifications, and other documents including the preparation and distribution of all necessary bidding correspondence and documents, receipt of bid proposals, and construction contract preparation. Reproductions made for the Professional’s own use or review shall not be included.

8.2.3 Expense of renderings, models, mock-ups requested by the Owner, and/or discs for electronic format submissions of record drawings.

8.2.4 Expenses of specialized consultants identified as optional additional services in Article 3 of this Agreement.

8.2.5 Reimbursable expenses for individual travel, meals, and lodging expenses are limited to individuals under the direct employ of the Professional or their approved consultants.

8.3 Cost for Consultants (consultants not included in the Basic Services proposal/procured after award)

The Professional shall be reimbursed on a multiple of one and one-tenth (1.1) times the amounts billed to the Professional for such services.

ARTICLE 9: COMPENSATION AND PAYMENT

9.1 Compensation and Payment

9.1.1 The Owner agrees to pay the Professional as compensation for those Basic Services described in Article 1, Article 2, and any other agreed upon services described in Article 3:

an amount not-to-exceed _____ Dollars ($_____)
for the Professional's Personnel Expense as defined in Paragraph 8.1 and cost for Consultants.

9.1.2 Payment for Basic Services will be made monthly by the Owner in proportion to the service actually performed, but not to exceed the following percentages at the completion of each Phase.

Schematic Phase	15%
Design Development Phase	20%
Construction Document Phase	35%
Bidding Phase	5%
Construction Phase/Close-Out	25%

The close-out portion of the project refers to the development of the punch list and required follow-up, the submission of the as-built documents and other close-out document requirements, ongoing commissioning support, ongoing support of design-related project issues, and the performance of the (1) year bond inspection and punch-list development.

9.1.3 Reimbursable Expenses

The Owner agrees to pay the Professional as compensation for the Professional's Reimbursable Expenses, as defined in Paragraph 8.2, an amount not-to-exceed _____ Dollars ($_____).

9.1.4 Cost of Construction

The fixed limitation on the cost of construction as defined by this Agreement shall be _____.

9.2 Optional Additional Services Compensation

If approved, the Owner agrees to compensate the Professional for Optional Additional Services beyond Basic Services, as defined in Article 3 in accordance with the rates defined in Exhibit B and as approved by the Owner.

9.3 Payment Procedures

9.3.1 Payments are due and payable forty-five (45) days from the date that the Professional's invoice is approved by the Owner.

9.3.2 Submission of the Professional's invoice for final payment and reimbursement shall further constitute the Professional's representation to the Owner that, upon receipt from the Owner of the amount invoiced, all obligations of the Professional to others, including its consultants, incurred in connection with the Project will be paid in full.

9.3.3 Documentation accurately reflecting the time expended by the Professional and its personnel and records of Reimbursable Expenses shall be maintained by the Professional and shall be available to the Owner for review and copying upon request.

9.4 Owner's Right to Withhold Payment

In the event that the Owner becomes credibly informed that any representation of the Professional provided pursuant to Articles 8 or 9 is wholly or partially inaccurate, the Owner may withhold payment of sums then or in the future otherwise due to the Professional until the inaccuracy, and the cause thereof, is corrected to the Owner's reasonable satisfaction.

ARTICLE 10: INSURANCE

10.1 Professional Liability Insurance

The Professional shall secure and maintain, at its sole cost and expense, Professional Liability Insurance to protect against loss resulting from design errors and omissions, failure to coordinate the Construction Documents of the Project, and failure to execute the construction administration duties for the Project.

10.1.1 Unless otherwise specifically provided in this Agreement, the Professional shall secure and maintain Professional Liability Insurance with limits not less than $1,000,000, or the total of the Professional's fee, whichever is greater.

10.1.2 The Professional shall secure and maintain Professional Liability Insurance, as required above, up to and including one year after the date of the (1) year guarantee inspection of the contracts under the Project.

10.2 General Liability Insurance

The Professional shall secure and maintain, at its sole cost and expense, adequate General Liability Insurance to protect the Owner and the Owner's respective officers, agents, servants, and employees against claims arising out of the Professional's services during the design and construction of the Project for damages in law or equity for property damage and bodily injury, including wrongful death. The Owner shall be named as an additional insured in the policy, and the Professional shall submit a Certificate of Insurance to the Owner prior to execution of the Agreement. The limits of coverage shall be not less than $1,000,000, or the total of the Professional's fee, whichever is greater. The Professional is required to secure and maintain General Liability Insurance, up to and including one year after the date of the (1) year guarantee inspection of the contracts under the Project.

10.3 Certificate of Insurance

The Professional shall furnish to the Owner annually, unless otherwise requested, during the active terms of this Agreement, a Certificate from an Insurance Carrier authorized to do business in Pennsylvania indicating: (1) the existence of the insurance required under this Article; (2) the amount of the deductible; and (3) the amount of coverage of such insurance. The Professional shall submit a Certificate of Insurance covering the Professional Liability Insurance requirement up to and including one year after the date of the (1) year guarantee inspection of the contracts under the Project.

10.4 Failure to Comply with Insurance Requirements

During any period in which the Professional is not in compliance with the terms of this Article, no compensation shall be paid by the Owner to the Professional.

ARTICLE 11: TERMINATION, ABANDONMENT, SUSPENSION, REACTIVATION

11.1 Termination by Owner

The Owner shall have the right at any time, for any reason, to terminate this Agreement upon not less than seven (7) calendar days' written notice to the Professional. The Professional shall comply with all reasonable instructions of the Owner then or subsequently given relating to such termination, including but not limited to: instructions concerning delivery of drawings, sketches, and other architectural/engineering data to the Owner; discontinuance of the work on outstanding contracts; and furnishing to the Owner information concerning all actions to be taken respecting outstanding agreements with consultants, contracts, awards, orders, or other matters.

Copies of Construction Documents and any other materials in existence as of the date of termination will be furnished to the Owner as requested.

11.2 Compensation in the Event of Termination

In the event of termination, the Professional shall be compensated for its services to the termination date based upon services performed on any Phase to the termination date in accordance with the Compensation and Payment schedule contained herein at Article 9.1.2.

Such compensation shall be the Professional's sole and exclusive remedy for termination.

11.3 Suspension of Work

The Owner may, at any time, direct the Professional to suspend all work on the Project, or on any part thereof, pending receipt of further notice from the Owner. In all such cases the Owner and the Professional shall agree upon an appropriate phasing-out of the work in such a manner that the work may be resumed with a minimum of added cost to the Owner, but in no event shall the work be continued beyond the completion of the portion of the project then in progress. The Professional shall be compensated as if the Agreement had been terminated at the completion of the agreed Phase. If work is suspended during the Construction Phase, compensation shall be paid for all Professional services provided to the date of suspension, but no additional compensation shall be paid during the period of suspension.

11.4 Reactivation Compensation

When a Project has been suspended or terminated for a longer time than six (6) months and is subsequently reactivated using the same Professional, the Owner and the Professional shall agree, prior to the beginning of the reactivation work, upon a lump sum, or other basis, of reimbursement to the Professional for its extra start-up costs occasioned as a result of the work having been suspended or terminated.

ARTICLE 12: MISCELLANEOUS PROVISIONS

12.1 Dispute Resolution / Applicable Law

After Final Completion of the Project, any and all claims, disputes or controversies arising under, out of, or in connection with this Agreement, which the parties shall be unable to resolve within sixty (60) days of the time when the issue is first raised with the other party, shall be mediated in good faith. The party raising such dispute shall promptly advise the other party of such claim, dispute or controversy, in writing, describing in reasonable detail the nature of such dispute. By not later than five (5) business days after the recipient has received such notice of dispute, each party shall have selected for itself a representative who shall have the authority to bind such party, and shall additionally have advised the other party in

writing of the name and title of such representative. By not later than ten (10) business days after the date of such notice of dispute, the parties shall mutually select a Pennsylvania-based mediator, and such representatives shall schedule a date for mediation, not to exceed one (1) day in length, and less where applicable. The mediation session shall take place on the University Park Campus of The Pennsylvania State University, or upon the campus where the Work was performed, at the option of the Owner. The parties shall enter into good faith mediation and shall share the costs equally.

If the representatives of the parties have not been able to resolve the dispute within fifteen (15) business days after such mediation hearing, the parties shall have the right to pursue any other remedies legally available to resolve such dispute in the Court of Common Pleas of Centre County, Pennsylvania, jurisdiction to which the parties to this Agreement hereby irrevocably consent and submit.

Notwithstanding the foregoing, nothing in this clause shall be construed to waive any rights or timely performance of any obligations existing under this Agreement.

In all respects, this Agreement shall be interpreted and construed in accordance with the internal laws (and not the law of conflicts) of the Commonwealth of Pennsylvania.

12.2 Successors and Assigns

This Agreement shall be binding on the successors and assigns of the parties hereto.

12.3 Assignment

Neither the Owner nor the Professional shall assign, sublet, or in any manner transfer any right, duty, or obligation under this Agreement without prior written consent of the other party.

12.4 Extent of Agreement

This Agreement, including any and all schedules, proposals and/or terms and conditions attached hereto, represent the entire and integrated agreement between the Owner and the Professional and supersedes all prior negotiations, representations, or agreements, either written or oral. This Agreement may be amended only by written instrument signed by both the Owner and the Professional. In the event of a conflict between the provisions of this Agreement and those of any other document, including any that are attached hereto, the provisions of this Agreement shall prevail. Furthermore, any provision, terms or conditions contained within any documents attached as exhibits hereto are void and lacking in any force or effect, with the exception of entries which define the Professional's scope of work for the Project, Professional's billable hourly rates, and project schedule.

12.5 Third Party

Nothing contained in this Agreement shall create a contractual relationship with or a cause of action in favor of a third party against either the Owner or the Professional.

12.6 Hazardous Material

Unless otherwise provided in this Agreement, the Professional and its consultants shall have no responsibility for the discovery, presence, handling, removal, or disposal of, or exposure of persons to hazardous materials in any form at the Project site, including but not limited to asbestos, asbestos products, polychlorinated biphenyl (PCB), or other toxic material.

If the Professional encounters or suspects hazardous or toxic material, the Professional shall advise the Owner immediately.

12.7 Promotional Material

The Professional shall not issue or disclose to third parties any information relating to the Project without prior written consent of the Owner, except to the extent necessary to obtain necessary permits or governmental approvals**,** coordinate the Work with the Owner's agent, Contractors, Subcontractors, etc. The Professional may, with written consent of the Owner, include design representation of the Project, including interior and exterior photographs, among the Professional's promotional and professional materials.

12.8 Terms/General Conditions

Terms contained in this Agreement and which are not defined herein shall have the same meaning as those in the Owner's Form of Agreement between Owner and Contractor and the Owner's General Conditions of the Contract for Construction, current as of the date of this Agreement.

ARTICLE 13: SCHEDULE OF EXHIBITS

The attached Exhibits are part of this agreement:

Exhibit A: Professional's proposal dated _____ **NOTE:** Professional's proposal is attached solely for purposes of defining Professional's scope of work. As per Article 12.4 of this Agreement, additional terms and conditions that may be included in the Professional's proposal, beyond those relating to scope of work, are void, without effect, and not considered to be part of this Agreement.

Exhibit B: Professional's Billable Hourly Rates.

Exhibit C: The Pennsylvania State University Design and Construction Standards listing (screen print from the Office of Physical Plant web page).

Exhibit D: Project Schedule outlining design submission dates to be followed per Article 1, Section 1.1.9.

THE PENNSYLVANIA STATE UNIVERSITY
OWNER

_____ _____
Title ATTEST, Secretary

(PROFESSIONAL COMPANY NAME)
PROFESSIONAL

_____ _____
Title ATTEST, Secretary

Attachments