

Architectural Program

Jayhawker Towers Renovation – Phase Two (Tower D)

KU Project No. 164D-8622

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Prepared by:

**The University of Kansas, Lawrence Campus
Department of Student Housing
Office of Design & Construction Management**



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Introduction

Jayhawker Towers was completed in 1967 as privately-owned housing, and was acquired by the University in 1981. The Towers had much of its normally-required maintenance deferred while still privately owned, and the Department of Student Housing (DSH) has been aggressive in making repairs and replacing major systems such as hot water, elevators, fire safety and laundry since acquisition.

Now, after more than forty years of hard use, the buildings have major mechanical needs that must be addressed. Work already completed includes replacement of the heating and A/C risers in Tower C, which have been partially replaced in Towers B and D. Chillers in Towers B and D were replaced in 2007, and Tower C chillers are slated for replacement in fall 2009.

Window replacements are complete in Tower D and Tower B. Carpets are replaced in regular rotation, and many kitchens have been remodeled in an ongoing effort. Much remains to be done.

In addition to the aged condition of the mechanical systems, the interior brick walls and poor lighting make the apartments dark and aesthetically unattractive. Existing ceilings need to be abated before new finishes and lighting can be installed and interiors can be renovated.

Interiors need to be brightened and refurbished with new lighting and drywall installed over some of the interior brick walls. Insulation and vapor barriers will be needed on exterior wall locations to prevent condensation, mold and mildew problems. Television and data cabling is outdated and unreliable, and needs to be replaced throughout, and data service needs to be added in bedrooms.

Renovation of the towers will follow a multi-year approach. Tower A is the building most in need of attention, and is currently being renovated, with completion expected in July 2009. Phase Two proposes to renovate Tower D next.

The University intends to essentially duplicate the design and scope of renovation work currently being completed on Tower A, in the renovation of Tower D, adjusted as needed to account for the specific condition and needs of Tower D.

The Department of Student Housing proposes to eventually renovate all four buildings, keeping essentially the same mix of two and four person occupancy apartments as currently exists. For both financial and occupancy reasons, renovation needs to be accomplished one tower at a time. With approximately 75 apartments and 185 residents in each tower, and nearly 750 students total in the Jayhawker Towers complex, DSH could make provisions to maintain occupancy and meet resident needs during the renovation of each tower by managing single rooms, temporarily offering graduate housing elsewhere and so forth.

A separate but possibly concurrent project is the proposed construction of a new centrally-located Community Center within the south courtyard of the complex. The new Community Center will provide entry points to the complex from both the north and south bus and pedestrian access points, centralized services and gathering places for residents that don't currently exist. The Community Center will connect to all four towers with protected walkways, and upgrade centralized landscaping features. This project has been designed and is awaiting confirmation of all gift funds before construction can begin.

Design Criteria and Goals

The design for this project shall address the following needs, goals and objectives:

- Refurbish the apartment interiors to improve their aesthetic appeal, enhance lighting and brightness levels, enhance and expand internet access, and modernize plumbing fixtures and casework.
- Create apartments that are desirable and competitive with other off-campus housing options for students.
- Complete the renovation work within the design and construction schedule, while maintaining high standards of quality in all areas.
- During design, evaluate in detail all feasible options for potential cost savings. With the Owner, determine those adjustments which will be implemented in order to maintain the high quality of the units, while minimizing costs.
- Solicit student input and develop the design working collaboratively with both students and DSH staff.
- Enhance the security of the complex, including retention of card reader access.
- Minimize noise, disruptions and inconvenience to the occupants of adjacent buildings during construction.
- Maintain access to and use of adjacent site areas and buildings during construction.
- Maintain unimpeded access to and use of parking areas and fire lanes at all times during construction.
- Increase handicapped accessibility throughout the complex, in compliance with ADA requirements, including site improvements to update accessible paths from parking and loading zones to all buildings in the complex.
- Go beyond ADA and code minimums to achieve facilities with functional accessibility, as required to fully address real-world needs of disabled persons.
- Address the delivery, trash, maintenance and service needs of the complex, both during construction and in the completed project, including provision of appropriately screened trash dumpsters and parking for service vehicles.
- Address energy conservation and sustainability issues in the building's design.
- Address life safety issues and meet current code requirements.
- Develop separate bidding / procurement packages for work that can be expedited, possibly including abatement, demolition and long-lead-time equipment.
- Advise DSH on the selection of furnishings and loose equipment, and coordinate with built-in elements.
- Develop and implement a proactive and collaborative team approach to delivering the overall project on time and within budget.
- Coordinate the design and construction of this project with a separate but possibly concurrent project to build a new Community Center on the complex grounds. Coordinate site usage, pedestrian bridges and modification of connection points with that project.

Space and Program Needs

General

- *NOTE: This project is essentially a duplication of the design developed for the JT-Tower A Renovation project. The following text formed the basis of the Tower A program. It is included for reference and to confirm the basic scope. However, it is KU's intent to use the Tower A project as a template, to be updated to reflect changes made during that project's bidding and construction.*
- The number and size of apartments shall essentially match those in Tower A.
- Each apartment shall be renovated, but their basic layouts shall remain unchanged within existing load-bearing walls.
- DSH may determine that some recently upgraded components will remain largely unaltered.

Interiors

- Interiors of apartments shall be open and inviting, with excellent lighting, new paint and upgraded finishes.
- Kitchens and bathrooms shall be remodeled and updated.
- Carpets shall be replaced.
- Laundry Room shall be provided in lowest level, two washers, two dryers, study room.
- Accessible units shall be provided per the ADA and accessibility shall be improved throughout the complex.
 - Each Tower shall be remodeled to create not less than three (3) ADA-compliant accessible apartments.
 - Each accessible apartment's entrance will require removal or modification of some existing load-bearing brick walls and provision of new structural supports, as needed, to provide entrance doors that meet ADA clearance requirements.

- An accessible path of travel shall be provided from accessible parking stalls and loading zones to the Community Center and to accessible apartments.
 - Existing handicapped stalls and pathways do not all meet current ADA / code requirements and shall be upgraded as required to serve each building.
 - The design team shall verify that an appropriate number of accessible stalls are provided throughout the complex, with appropriate accessible paths.
 - Existing load-bearing brick walls may make it technically infeasible to provide a fully-compliant public path of travel on floors that do not contain accessible apartments.
- Elevators: Both elevators in each Tower shall be replaced with ADA-compliant cabs within the existing elevator shafts. Standard size elevators shall be used unless load-bearing walls make this technically infeasible; if so, alternate size cabs shall be used, subject to DFM approval.
- Existing doors into apartments and into exit stairwells are typically 2'8" wide in 3'0" door frames, which are set between existing load-bearing walls. Due to the technical infeasibility of replacing them throughout with wider doors, new doors shall be provided within the existing frames.
 - DFM approved a proposed 2006 project which would have replaced the existing stairwell doors with new FR doors of the same size, in the existing HM frames.
- Access control card reader locks shall be retained at each building's exterior entrance doors.
- Existing public corridors, entrances and stairwells shall also receive new lighting, paint and other finishes to improve their aesthetic qualities.
- Roof: verify condition and if poor, an alternate bid shall be taken for repairs or replacement.

Mechanical / Electrical

- Interior and exterior lighting shall be upgraded throughout.
- Fire sprinkler systems shall be installed in each building, with piping concealed in walls, soffits or ceilings.
- Previous project work has installed main fire alarm control panels (FACP) in each tower which are compliant with current University standards. The fire alarm systems in each tower include a conduit riser pathway for system cabling between devices at each floor and the ground floor FACP. This pathway was installed with the expectation that a future remodel would follow-up with devices and cabling to make a fully compliant system.
 - This project needs to include replacement of all devices on the remodeled floors and cable-connect the devices to the existing FACP's.
 - The network interconnection of all complex tower buildings with the campus fire alarm monitoring network is already in-place.
- Each apartment unit features a dedicated two-pipe heating/cooling fan coil unit, which is to be replaced.
- All of the two-pipe risers were recently replaced and may remain, but piping at top needs to be replaced; verify extent.
- The Ajax heating hot water boiler will be replaced.
- Domestic water piping was recently replaced and can remain but A-E shall verify current condition is acceptable.
- The domestic hot water boiler will be replaced.
- All waste plumbing lines and drains shall be replaced.
- Toilets, sinks and showers in apartments will be replaced.
- A-E shall field-verify if existing stormwater drain lines require replacement and/or insulation and if so, include this in the scope of work and budget.
- All electrical components shall be replaced. KPL main transformer in exterior vault is original equipment.

Telecommunications & Security

- New phone, data and IPTV lines shall be installed throughout, and data shall be added to each bedroom; existing cable television lines shall remain for now.
- Wireless data service shall be provided (to same extent provided in Tower A).
- Security cameras are currently being installed in the Towers and shall remain.
- Access control systems shall remain as-is.

Space Summary - Complex

<u>Space</u>	<u>Area (SF)</u>
Tower A (73 apts.)	77,580
Tower B (72 apts.)	77,415
Tower C (76 apts.)	76,840
Tower D (74 apts.)	76,840
Building E	2,955
Community Center (separate project; verify actual)	<u>16,400</u>
Overall Area of Complex	<u>328,030</u>

Site Improvements & Infrastructure

Site Improvements

- Parking: Existing parking areas shall remain. A-E shall verify an appropriate numbers of handicapped stalls are provided for each Tower, with an ADA-compliant ramp or walk / accessible path from each stall to each Tower.
 - Entrances: Power-assist operators on exterior entrance doors shall be replaced or provided on each accessible path into buildings.
- Exterior courtyard areas shall be landscaped and re-configured to create more inviting, usable spaces.
- Coordinate each Tower's site improvements with site improvements to be completed separately as part of new Community Center project. Scope of this project includes limited site improvements within the immediate area of each Tower, as each is renovated, and shall be consistent with overall site development concepts established as part of the Community Center project.

Utilities & Infrastructure

- New mechanical and electrical systems shall replace existing outdated and inadequate systems. Extensions of the utility services shall be included as part of this work, as required to serve these new systems.
 - Electrical service to this complex is owned by Westar.
 - Existing transformers do not meet current University standards and shall be replaced. Design team shall advise KU on potential costs and benefits of replacing the electrical service entrance equipment.

- A new emergency generator shall be provided. At least one elevator shall be served by it, to function as an ICC-compliant means of egress for the disabled.
 - Domestic water service can remain, if A-E team confirms it is adequate to serve the renovated building.
 - A new main sprinkler service will need to be extended from a new KU line installed as part of the Tower A renovation project, from a point south of that building. It will need to be configured to coordinate with and serve the proposed Community Center building.
 - Existing mechanical / electrical equipment serving undisturbed portions of the complex shall be maintained in service at all times, except for short-term shutdowns.
- All utility or M/E system shutdowns or outages shall be planned well in advance, in collaboration with DSH and FO personnel, and others who may be affected.

Hazardous Materials

The KU Environmental Health & Safety Office has performed tests of existing materials in the affected buildings and has determined the following materials are asbestos-containing:

- Sprayed-on ceiling texture throughout.
- Linoleum and floor tile / mastic throughout.
- Some HVAC piping insulation.
- Sheetrock joint compound.
- Cost of abatement is estimated to be approximately \$400,000 per Tower (incl. \$5,000 for EHS monitoring).

KU's standard policy is to remove all hazardous materials when undertaking major renovations of existing buildings.

Code Requirements

- Codes currently used on KU projects include the following:
 - International Building Codes, 2006 edition.
 - Kansas Fire Prevention Code, KSFMO, current edition.
 - Other codes as listed at the State of Kansas, Division of Facilities Management (DFM) website.
 - Code Footprint templates of the existing buildings shall be prepared by DCM and furnished to the architect on DCM's standard 11x17 code footprint sheets.
 - The architect shall update these drawings to reflect all proposed work and submit them for approval to DFM through the KU-DCM office, immediately following approval of the Design Development phase.
 - Electronic files of the approved code drawings shall be forwarded to DCM in both .PDF and .DWG formats.
- Construction Exiting: Temporary fire-rated exit corridors shall be provided through the construction site, if required to protect and direct occupants from all required exits in the surrounding occupied existing buildings to a public way. They shall remain in-place at all times while construction work is underway.
- The building shall have a new fire sprinkler system throughout.
- Fire alarm systems shall comply with current code and KU requirements for an intelligent addressable system.

Design Standards / Consultant Services

- The consultant team shall comply with the latest provisions of The University of Kansas *Design and Construction Standards*, as maintained by the Office of Design and Construction Management (DCM).
 - These standards are available online at the DCM website: <http://www.dcm.ku.edu/standards/design/>
 - The consultant team shall also comply with supplemental updates to these standards which may be issued during the course of the project.
- The University's Project Representative shall be a DCM staff person assigned to serve as KU's Project Manager, and who shall be the primary point of contact for all communications between the Owner, A-E and Contractor.
- Special Consultants that will be required on the A-E team, in addition to the usual A/E disciplines:
 - Telecommunications System Engineer (must be pre-approved by KU-IT)
- Electronic Files: Consultants shall deliver to KU complete sets of electronic files for the drawings and manuals / specifications for each design review submittal, and for the bid sets and as-built sets.
 - Each set of electronic files shall include both PDF and AutoCAD .dwg files for each drawing sheet.
- Models, if produced by the consultant to explain the design, shall be delivered to and remain at KU.
- NOTE: The basic design of this project shall match that of Jayhawker Tower A, so no Schematic Design services are anticipated, and Design Development shall be limited to a quality-control review to update that design relative to construction changes and adapting it to this building.

Historic Preservation Reviews

These existing buildings are not located within 500 feet of any properties listed on either the State or National Registers of Historic Places.

Annual Maintenance & Operating Costs

Funding for annual maintenance and operating costs will come from housing fees collected by the Department of Student Housing. No state funding will be required to cover any of these costs.

Space Standards & Utilization Analysis

This project consists primarily of the renovation of existing buildings. As such, it will not add any new space to the University's space inventory.

Construction Method Options

The University of Kansas proposes to use a traditional but expedited design-bid-build process for this project. The Owner and consultant team shall jointly develop strict pre-qualification criteria, designed to ensure that contractors approved to bid this project have a proven track record of delivering similar projects, under a similar expedited construction timeframe, and successfully meeting those schedules.

Project Budget – Phase Two

Typical Construction Costs per Tower

Demolition – To be done by DSH	NA
Roof Replacement, Tuckpointing & Ext. Wall Cleaning	NA
Construction Costs (per Tower A actual costs)	5,776,000
Mechanical, Elevator, Misc. Upgrades (KU-Housing)	534,000
Telecommunications (KU-IT)	158,000
Repair Window Eyebrows (incl. in constr. costs)	NA
<u>Window Replacement (already completed)</u>	<u>NA</u>
Subtotal - Construction Costs	\$6,468,000

Miscellaneous Costs

Fees - Consultants, CM, State / KU Agencies	482,000
Printing & Shipping of Bid Documents; Misc.	9,000
Asbestos & HazMat Abatement (DSH funded)	400,000
Construction Testing & M/E Commissioning	NA
<u>Bidding & Construction Contingency (2.2%)</u>	<u>176,000</u>
Subtotal - Miscellaneous Costs	\$1,067,000

Total Project Cost (2008 \$\$\$) \$7,535,000

Inflation - Nov. 2008 to Oct. 2009 bid date @ estimated 4% inflation rate 300,000

Total - Adjusted for Inflation to Oct. 2009 bid \$7,835,000

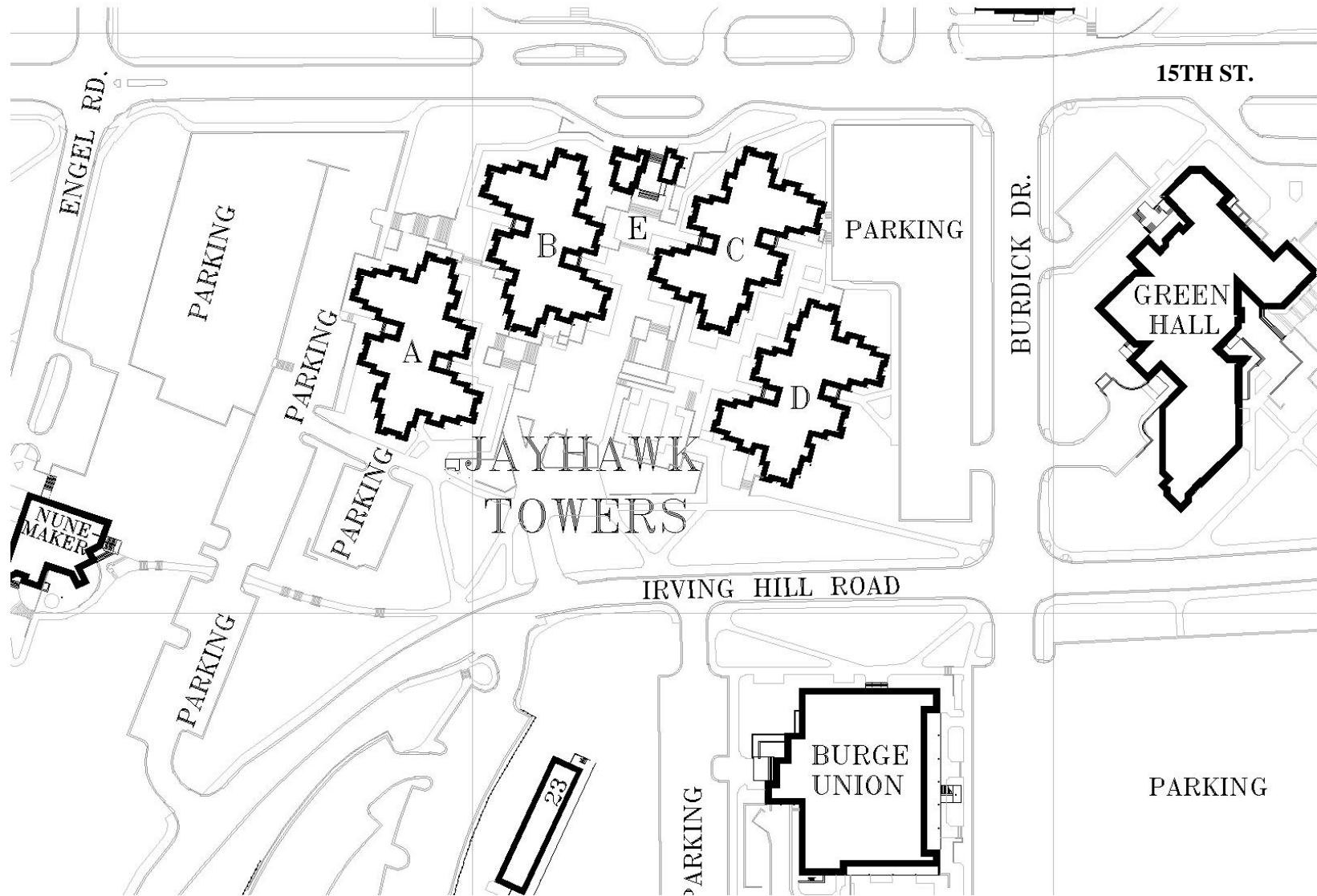
Notes:

- 1) Funding is proposed to come from the sale of bonds (\$6.95M - FY 2010) which will be repaid using Housing fees and from Housing Funds (\$885K - FY 2010).
- 2) Construction costs are based on the Jayhawker Towers - Phase One (Tower A) CM's actual GMP costs = approx. \$80/SF.
- 3) Furnishings (approximately \$400,000 per Tower) will be funded separately using DSH departmental funds.
- 4) Following a review of the preliminary design and cost estimating / value engineering options to be developed by the A-E team, KU may wish to implement some scope and cost reductions, subject to approval by the Board of Regents and the Negotiating Committee, in order to keep rents competitive with the market.
- 5) Certain elements of work are included in A-E scope but will be bid as alternates. If required by DSH, these will include reroofing, tuckpointing and cleaning of exterior building, elevator upgrades and other elements if required to remain within budget.
- 6) Certain elements of the work will be funded, furnished and/or installed separately by DSH (such as boilers, hot water heaters, fan coil units, window blinds, etc.), but will be designed and administered by the A-E, and coordinated with the Contractor's work. These items total \$534,000 and are included in the Project Budget.
- 7) ESCO Work: If the A-E can identify elements of work that qualify as energy-conserving (ESCO) work, it is possible that other funding may be available to cover those costs. The University may wish to involve an ESCO firm of its choice in an independent evaluation of the proposed project scope, to identify potential ESCO projects / funding.

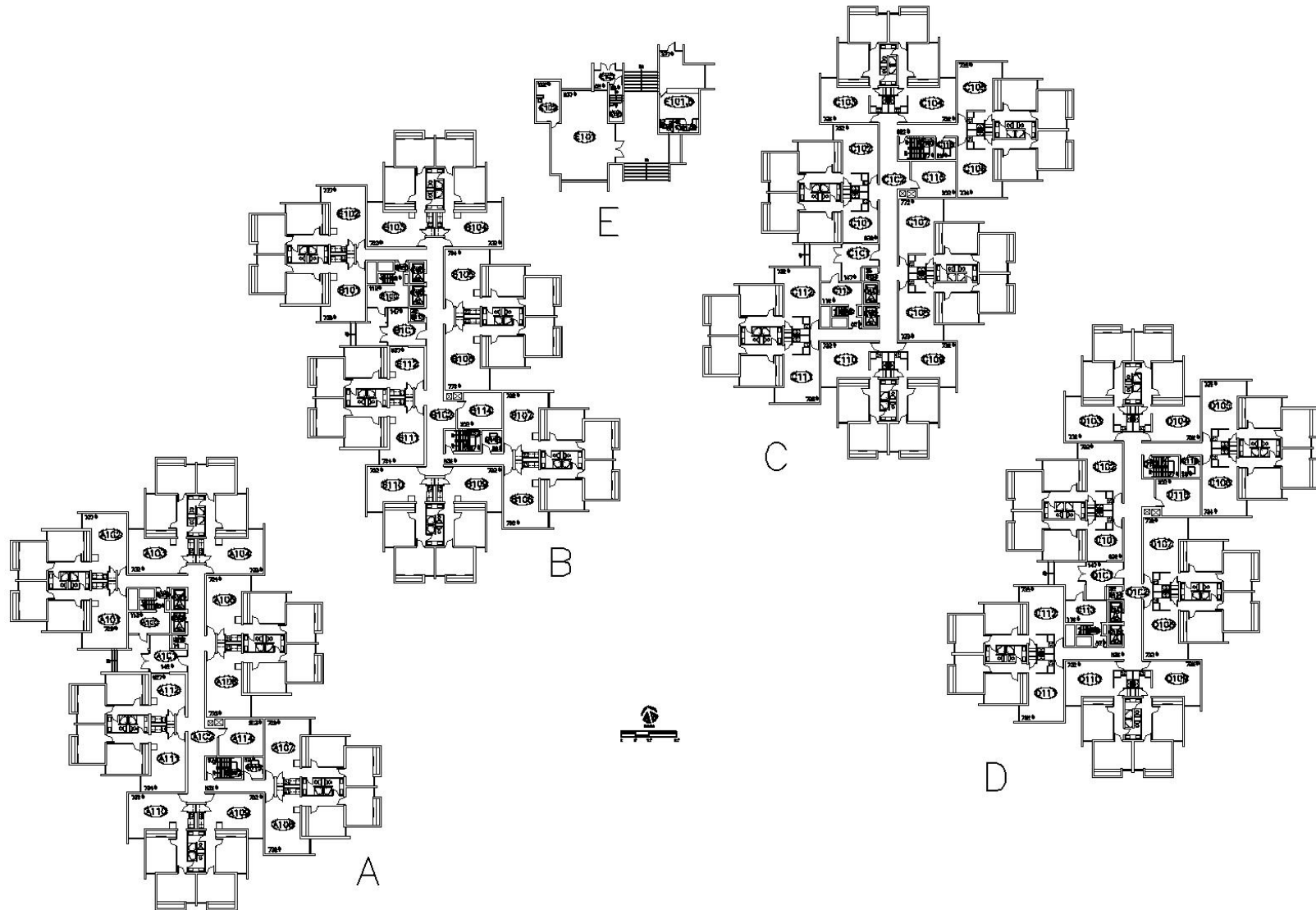
Project Schedule

Program Submitted for Approval (KBOR, Legislature)	Nov. 2008 / Jan. 2009
Program & Funding Approval (Legislature).....	April 2009
Advertise for Consultants in KS Register	April 2009
A-E Submittals of Interest due at DFM	May 2009
SBAC Reviews Submittals & Determines Shortlist; possible CM At-Risk Hearing date	mid-May 2009
Interview & Select Consultants (DFM, KU, KBOR).....	June 2009
Negotiate Fees & Process Contracts (sign contracts July 1) (Neg. Comm.)	June 2009
<u>Design:</u>	
Program Review & Preliminary Design.....	June 2009
Design Development.....	July 2009
Construction Documents.....	Aug. - Sept. 2009
Bidding	October 2009
Contract Award & Execution	November 2009
<u>Construction:</u>	
Abatement Work (separate contract)	Sept. - Oct. 2009
Demolition Work (by DSH).....	Sept. - Oct. 2009
Bidding & Procurement of Long-Lead Equipment (separate contracts).....	Sept. - Oct. 2009
Elevator Demolition and Replacement (separate contract)	Oct. - Nov. 2009
Renovation Work (7 months)	Nov. 2009 to July 1, 2010
Punchlist / Final Completion / Furnishings & Equipment Move-In	early-July 2010
Student Move-In and Occupancy Date	mid-July to early-August 2010

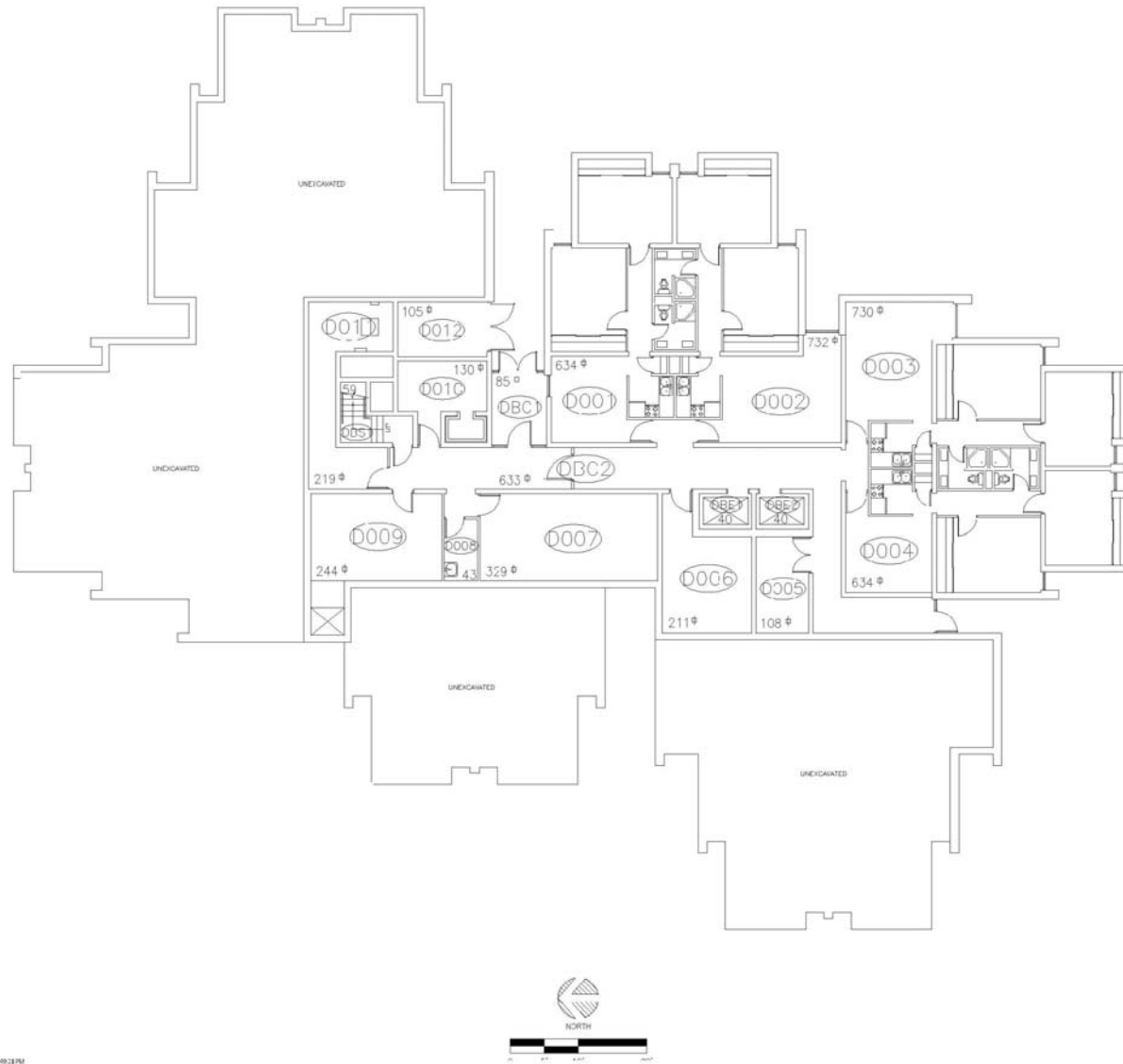
Existing Site Plan



Existing Complex - First Floor Plans

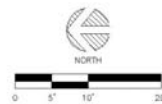
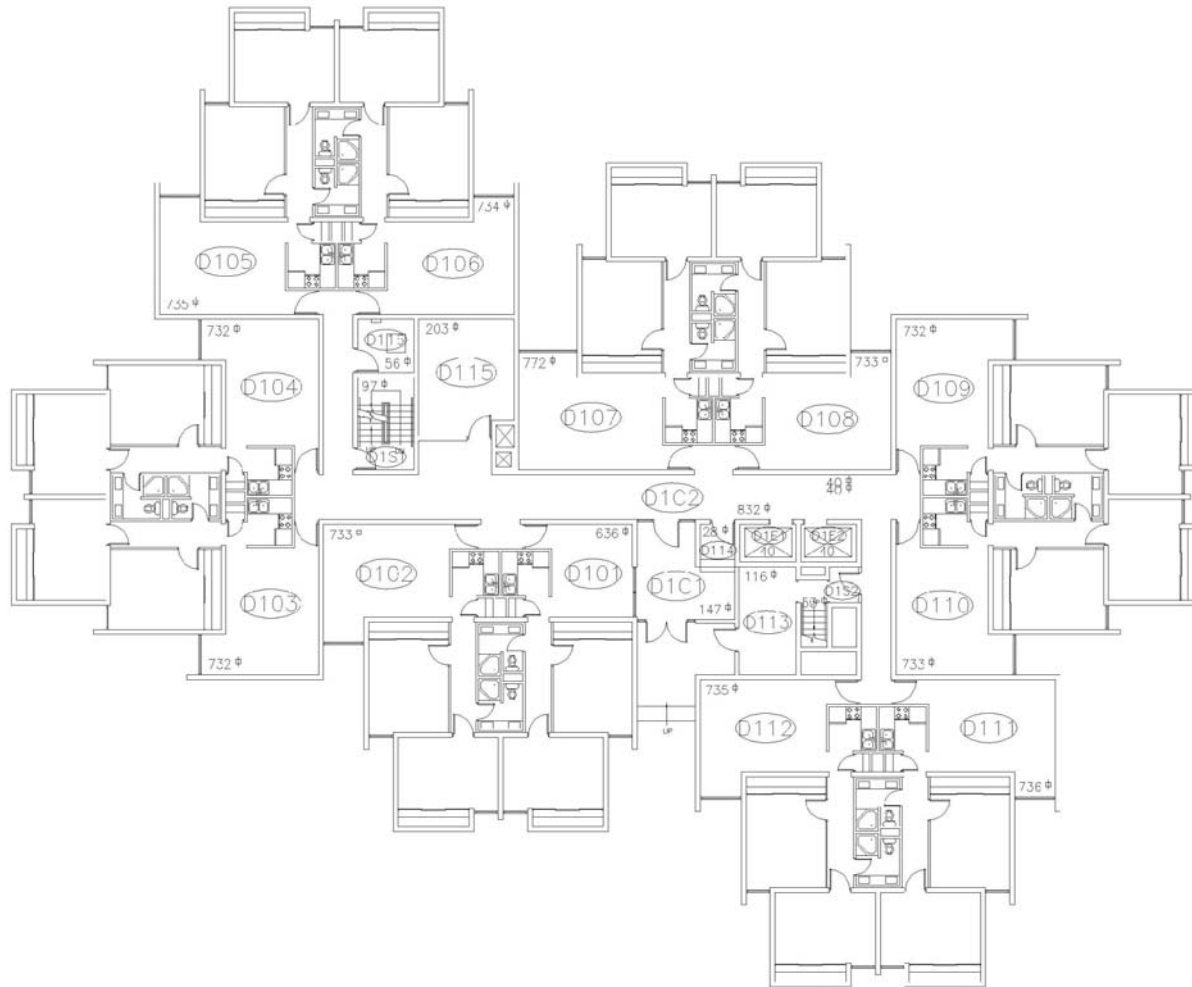


Existing Tower - Basement Floor Plan (Tower D; others similar)



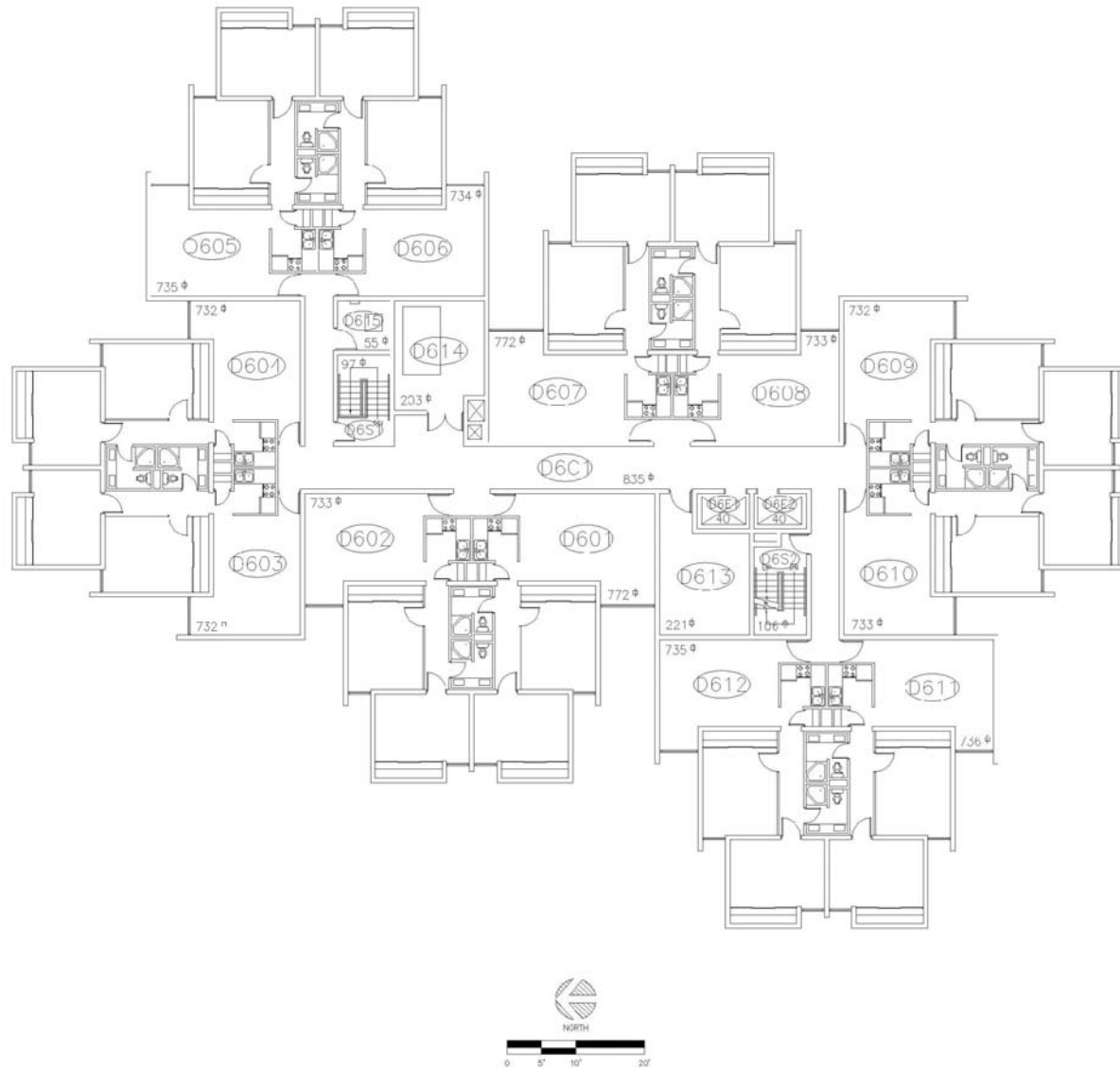
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Existing Tower - First Floor Plan (Tower D; others similar)



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Existing Tower - Sixth Floor Plan (typical, Second thru Sixth Floors)



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