# Graduate \& Family Housing Master Plan Univessity of Missouri - Columbia 

Project Number 400951

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## Executive Summary

## Introduction

Mackey Mitchell Architects, with the assistance of Ross \& Baruzzini, was commissioned by the University of Missouri-Columbia in 2007 to develop a Master Plan for Graduate \& Family Housing at the current campus locations: Manor House, Tara Apartments, University Village and University Heights. The goal was to determine a plan that best meets the long-term needs of the University in a financially viable manner. 1 move AS sentence to 1st Parag.
Anderson Strickler, LLC was retained by the University to assist with market studies and financial planning. The University had previously completed a Residential Life Master Plan for on-campus undergraduate housing. Implementation of that plan is underway.

The master planning process included an analysis of the current condition of the existing buildings to determine deficiencies that need correction, and the costs to make these corrections by Mackey Mitchell Architects. Plan options were developed by Mackey Mitchell Architects to renovate, upgrade, and/or replace the existing buildings to provide apartment types identified as desirable by the University. A recommended plan, including a financial plan was developed by Anderson Strickler, LLC based upon the most feasible combination of these options.

## Recommended Plan

The recommended plan is a combination of renovations, upgrades, and demolition, selected to respond to students' needs in a financially-feasible manner.
Manor House - renovation to address identified deficiencies and upgraded to provide additional one-bedroom apartments in this highly-desirable location.

Tara Apartments $=-$ renovation to address identified deficiencies. The current unit plans are desirable so no upgrades are required.

University Heights - renovation to address identified deficiencies. The twobedroom units are small but desirable, so no upgrades are required.

University Village is in poor condition, including the building structure. Renovation is not a reasonable alternative. The site is in a floodway, so new construction on this site is not desirable University Village will be utilized to provide "swing" space during renovations of other buildings, but will be vacated and demolished as conditions warrant. based on financial modeling of costs necessary for redevelopment at this site.

The recommended plan has an estimated Development Budget of $\$ 38,122,000$ and results in 336 apartments: 21 studios, 76 one-bedroom, and 237
two-bedroom. This plan reduces the current apartment stock by 139 units over 5 years.


## Report Structure

This report is organized in four parts.
Facility Condition Analysis:
Determine the current condition of each building system and site issues.
Prepare scope and cost estimates to address deficiencies.

## Plan Options:

Develop plan options for renovation and replacement to address program needs. Prepare cost estimates for options.

Recommended Plan: $\left\{\begin{array}{l}\text { the way this report stands } \\ \text { now, the "recommended plan" is } \\ \text { right after the introduction }\end{array}\right.$
Develop a plan that outines the best mix of Yenovation, demontion, upgraces, and new construction, based on the financial feasibility of the options. The recommended plan includes a phasing implementation schedule.

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Financial Plan:
summary of the financial plan...
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## Facility Condition Analysis

## Introduction

Mackey Mitchell Architects and Ross \& Baruzzini met with the University of MissouriColumbia Residential Life Maintenance Services staff to gather information regarding the condition of major building systems and issues within the buildings, including:

| Foundation/Structure | Code Compliance |
| :--- | :--- |
| Exterior Enclosure | Asbestos Containing Materials (provided by MU EH\&S) |
| Roof | HVAC |
| Interior Systems | Plumbing |
| Elevators | Fire Protection |
| Site Features | Electrical |

A comprehensive schedule of the issues, scope, and estimated construction costs (2007 dollars) for each typical building type was developed. The buildings vary significantly in condition. Three levels of renovation have been identified.

Level 1: Issues which must be addressed with any substantial renovation due to deteriorated condition or to meet building code requirements.

Level 2: Issues which are desirable but not essential and can be addressed without major construction.

Level 3: Issues which are desirable but not essential and will require major construction to correct.

## Manor House

Manor House is a 9-story building with 78 apartments on floors 1-8. The building needs new windows and elevators. A dead-end corridor problem requires construction of a new exit stair. Inadequate ventilation and leaking plumbing need to be addressed. A full sprinkler system should be added. Major electrical service upgrades are needed. Desirable upgrades (Levels 2 and 3) include new finishes, cabinets, appliances and lighting. Manor House has 58,868 GSF. Estimated construction costs (in 2007 dollars) are:

| Level of Renovation | $\underline{\text { Est. Cost }}$ | Cost/Apt. | Cost/SF |
| :--- | :---: | ---: | :---: |
| Level One Renovations | $\$ 4,088,740$ | $\$ 52,420$ | $\$ 69$ |
| Level Two Renovations | $\$ 974,553$ | $\$ 12,494$ | $\$ 17$ |
| Level Three Renovations | $\$ 1,927,104$ | $\$ 24,706$ | $\$ 33$ |
| Total | $\$ 6,990,397$ | $\$ 89,620$ | $\$ 119$ |

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## Manor House Shell

## Building Shell Deficiencies

- Leaky Windows (Level 1)
- Loose Capstones and Sills (Level 1)



## Manor House

## Interior Deficiencies

- Inadequate sound insulation at demising walls. (Level 3)
- Outdated VCT in kitchen and bath. (Level 2)
- Outdated carpet in bedrooms and living room. (Level 2)
- No dishwashers. (Level 2)
- Outdated kitchen cabinets. (Level 3)


## Building System Deficiencies

- No Central Air (Level 3)
- Inadequate ventilation throughout (Level 1)
- Outdated/leaky plumbing systems (Level 1)
- Outdated electrical service and wiring systems (Level 1)
- Outdated telecom/IT/TV (Level 3)
- No CCTV system (Level 2)
- Inadequate/outdated lighting (Level 2)

Life Safety Deficiency

- Building not sprinkled (Level 1)


## Manor House

## Safety Deficiencies

- Dead-end corridor on south-side of building (Level 1)
- Stair exits to unrated basement corridor (Level 1)
- No accessible route from sidewalk to main lobby (Level 1)
- Non-code compliant elevators (Level 1)
- Lack of egress lighting (Level 1)
- Hazardous materials require abatement (Level 1)


Manor House


Existing
Basement Plan


Proposed - Required Upgrade

## Manor House

Existing Program Summary
(3) studio units
(1) 1 bedroom unit
(4) 2 bedroom units

- 8 Apartments

Studio Unit 1 Bedroom Unit 1.5 Bedroom Unit 2 Bedroom Unit


Existing
First Floor Plan
Existing
First Floor Plan

(3) studio units
(1) 1 bedroom unit
(4) 2 bedroom units

- 8 Apartments

Proposed-Required
Upgrade
First Floor Proposed Program Summary

Proposed - Required

- Apartionts


## Manor House

Existing Program Summary
(5) studio units
(1) 1 bedroom unit
(4) 2 bedroom units

- 10 Apartments (per floor, 7 floors)


Existing


Proposed Program Summary
(4) studio units
(3) 1 bedroom unit
(3) 2 bedroom units

- 10 Apartments
(per floor, 7 floors)

Building Name: Manor House



## Tara Apartments

Tara Apartments has 218 apartments in 16 three-story buildings. Sixteen are onebedroom, and the remaining 202 are two-bedroom units. There is a clubhouse/management office building in a historic house on the property. The buildings need selected foundation and drainage issues to be addressed. The remaining Masonite exterior siding needs to be replaced with cement fiber siding, which MU owns. Original HVAC units and water heaters need replacement in $80 \%$ of the buildings. Desirable upgrades (Levels 2 and 3) include new finishes, cabinets, appliances and lighting. Tara Apartments has 174,115 GSF. Estimated costs (in 2007 dollars) are:

| Level of Renovation: | Est. Cost |  | Cost/Apt. | Cost/SF |
| :--- | :---: | :---: | :---: | :---: |
|  | Level One Renovations | $\$ 3,091,375$ | $\$ 14,181$ | $\$ 18$ |
| Level Two Renovations | $\$ 2,154,054$ | $\$ 9,881$ | $\$ 12$ |  |
| Level Three Renovations | $\$ 3,127,383$ | $\$ 14,346$ | $\$ 18$ |  |
| Total | $\$ 8,372,812$ | $\$ 38,408$ | $\$ 48$ |  |

NOTE: estimates shown in the Facility Condition Analysis section are construction costs only. These numbers were used to understand the magnitude of effort needed to update each facility and develop baseline data for the financial plan options.

## Tara Apartments

## Building Shell Deficiencies

- Settlement in buildings $2,5,7,9,11$, \& 14 (Level 1)
- Termite damage to siding of building 16 (Level 1)
- Masonite siding on front and sides of buildings (Level 1)



## Site Deficiencies

- Drainage problems in lower level entry area of buildings 5 , 6, 9, 10, 11, 13, 14, 15, \& 16. (Level 1)
- Significant rusting at mailbox posts (Level 1)
- Older pool pump needs replacement (Level 1)
- Perimeter drain issues (Level 1)
- Limited (ADA) handicapped access


## Tara Apartments

## Interior Deficiencies

- Outdated popcorn texture ceilings (Level 2)
- Older kitchen cabinets and appliances (Level 3)
- Outdated vinyl tile in kitchen and bathroom (Level 2)
- No ADA accessible units (Level 1)
- Historic house not accessible (Level 1)




## Building System Deficiencies

- Outdated original HVAC systems in $80 \%$ of units (Level 1)
- Outdated original bathroom exhaust in $80 \%$ of units (Level 1)
- No fresh air intake (Level 1)
- Central laundry room lacks ventilation (Level 1)
- Outdated, inefficient hot water heaters in apartments and
laundry. (Level 1)
- Inefficient incandescent lighting throughout interior (Level 2)
- Inadequate site and parking lighting (Level 2)
- Outdated telecom/IT/TV (Level 3)

Life Safety Deficiencies

- No sprinkler system or central fire system (Level 3)
- Lack of egress lighting (Level 1)
- Limited hazardous materials require abatement (Level 1)


## Building Name: Tara Apartments



| HVAC | Original central split-DX A/C systems in $80 \%$ of units. | Replace existing central split-DX A/C system with new 13-SEER system, including new refrigerant piping, where original system still in use (approximately $80 \%$ of units) | 174 | Units | \$ 5,000.00 | \$ | 872,000 | \$ | 104,640 | \$ | 146,496 | \$ | 1,123,136 | Level 1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Original bathroom exhaust fans in $80 \%$ of units. | Replace bathroom exhaust fan, where original fan still in use (approximately $80 \%$ of units) | 174 | Units | \$ 200.00 | \$ | 34,880 | \$ | 4,186 | \$ | 5,860 | \$ | 44,925 | Level 1 |
|  | No fresh air intake to air handling unit. | Add outside air duct to air handling unit for ventilation. | 218 | Units | 400.00 | \$ | 87,200 | \$ | 10,464 | \$ | 14,650 | \$ | 112,314 | Level 1 |
|  | Laundry room is hot and lacks ventilation. | Add new central split-DX A/C system with new 13SEER system, including new refrigerant piping. |  | LS | \$ 7,500.00 | \$ | 7,500 | \$ | 900 | \$ | 1,260 | \$ | 9,660 | Level 2 |
| Plumbing | Original domestic hot water heaters in $80 \%$ of units. | Replace existing electric domestic hot water heater, where original heater still in use (approximately $80 \%$ of units). | 174 | Units | \$ 2,500.00 | \$ | 436,000 | \$ | 52,320 | \$ | 73,248 | \$ | 561,568 | Level 1 |
|  | Original domestic hot water heater in laundry. | Replace existing gas-fired domestic hot water heater at laundry. |  | LS | \$ 10,000.00 | \$ | 10,000 | \$ | 1,200 | \$ | 1,680 | \$ | 12,880 | Level 2 |
| Fire Safety | No sprinkler system or central fire alarm system; hard-wired smoke detectors. | Install new wet-pipe sprinkler system, or provide fire alarm svstem, as indicated below. | 174,115 | SF | 6.50 | \$ | 1,131,748 | \$ | 135,810 | \$ | 190,134 | \$ | 1,457,691 | Level 3 |
|  |  | If sprinkler system provided or if a 1-hour fire partition between each dwelling unit is provided, a manual fire alarm system is not required. Otherwise, provide a manual fire alarm system with fire alarm control panel. | 174,115 | sq ft | \$ 1.75 | \$ | 304,701 | \$ | 36,564 | \$ | 51,190 | \$ | 392,455 | Level 1 |
|  | Replace exterior building lighting to incorporate emergency egress lighting | Add combination single station smoke detectors with battery backup in each bedroom. New detectors will be hardwired in tandem with existing single station detector outside of bedroom. | 172,587 | sq ft | \$ 0.50 | \$ | 86,294 | \$ | 10,355 | \$ | 14,497 | \$ | 111,146 | Does not include Laundry Building Level 1 |
|  |  | Provide each sleeping unit with provisions for future notification devices. ADA apartments are to be provided with fire alarm strobes. | 172,587 | sq ft | \$ 0.20 | \$ | 34,517 | \$ | 4,142 | \$ | 5,799 | \$ | 44,458 | Does not include Laundry Building Level 1 |
| Electrical |  | Provide arc fault circuit interrupting (AFCl) protection for lighting and receptacle outlets in bedrooms. New wiring will be required to outlets in bedrooms onlv. | 172,587 | sq ft | \$ 0.50 | \$ | 86,294 | \$ | 10,355 | \$ | 14,497 | \$ | 111,146 | Does not include Laundry Building Level 1 |
|  | Incandescent interior lighting throughout. | Replace all lighting to include living room lighting, kitchen lighting, bedroom lighting, and bathroom lighting. All new lighting will be fluorescent. | 174,115 | sq ft | \$ 3.50 | \$ | 609,403 | \$ | 73,128 | \$ | 102,380 | \$ | 784,910 | Level 2 |
|  | Inadequate egress lighting. | Replace exterior building lighting to incorporate emergency egress lighting |  | Lump Sum | \$ 50,000.00 | \$ | 50,000 | \$ | 6,000 | \$ | 8,400 | \$ | 64,400 | 25 poles @ \$2000ea Level 2 |
|  | Minimal parking lot lighting. | Upgrade site and parking lot lighting | 1 | Lump Sum | \$ 24,000.00 | \$ | 24,000 | \$ | 2,880 | \$ | 4,032 | \$ | 30,912 | $\begin{aligned} & \$ 1500 \text { per building } \\ & \text { Level } 1 \end{aligned}$ |
| Telecom | Outdated telecom/IT/TV | Upgrade telecom system to include voice, data, and cable TV in each bedroom and living room. Telecom to be networked to Campus wide system. | 174,115 | sq ft | \$ 3.00 | \$ | 522,345 | \$ | 62,681 | \$ | 87,754 | \$ | 672,780 | Level 3 |
|  | 15-20 y.o. dryers | Consider replacing old dryers with newer, more efficient models. |  |  |  |  |  |  |  |  |  |  |  |  |
| Level 1 Total |  |  |  |  |  | \$ | 2,400,136 | \$ | 288,016 | \$ | 403,223 | \$ | 3,091,375 |  |
| Level 2 Total |  |  |  |  |  | \$ | 1,672,403 | \$ | 200,688 | \$ | 280,964 | \$ | 2,154,054 |  |
| Level 3 Total |  |  |  |  |  | \$ | 2,428,093 | \$ | 291,371 | \$ | 407,920 | \$ | 3,127,383 |  |

## University Heights

University Heights has 12 one-bedroom and 27 two-bedroom apartments in four twostory buildings. The buildings need insulation on exterior walls and ceilings. Furnaces and window AC needs to be replaced with new HVAC units. The entire plumbing system needs replacement. Electrical distribution and lighting needs replacement. Desirable upgrades (Levels 2 and 3) include new finishes, cabinets and appliances. University Heights has 26,092 GSF. Estimated construction costs (in 2007 dollars) are:

| Level of Renovation | Est. Cost |  | Cost/Apt. |  |
| :--- | :---: | :--- | :---: | :---: |
|  | Cost/SF |  |  |  |
| Level One Renovations | $\$ 1,525,843$ | $\$ 39,124$ | $\$ 58$ |  |
| Level Two Renovations | $\$ 554,686$ | $\$ 14,223$ | $\$ 21$ |  |
| Level Three Renovations | $\$ 465,137$ | $\$ 11,927$ | $\$ 18$ |  |
| Total | $\$ 2,545,666$ | $\$ 65,274$ | $\$ 90$ |  |

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## University Heights

## Building Shell Deficiencies

- Inadequate wall and ceiling insulation (Level 1)

Interior Deficiencies

- No closet doors (Level 2)
- Older kitchen cabinets and appliances (Level 2/3)
- No dishwashers or garbage disposals (Level 2)
- Outdated VCT flooring in kitchen and bathrooms (Level 2)
- Outdated carpet in bedrooms and living rooms (Level 2)




## Life Safety Deficiencies

- No sprinkler system or central fire system (Level 1)
- Lack of egress lighting (Level 1)
- Hazardous materials require abatement (Level 1)


## Building System Deficiencies

- Outdated furnace and AC units. No Central Air. (Level 1)
- No fresh air intake (Level 1)
- No bathroom exhaust (Level 1)
- No range hood (Level 1)
- Outdated piping, hot water heaters, and plumbing fixtures. (Level $1 / 3$ )
- Outdated electrical service and wiring systems (Level 1)
- Inadequate lighting (Level 1)
- Outdated telecom/IT/TV (Level 3)
- No access control system (Level 2)
- No CCTV system (Level 3)

Building Name: University Heights


| Fire Safety | No sprinkler system or central fire alarm system. | Install new wet-pipe sprinkler system, or provide fire alarm svstem, as indicated below | 25698 | SF | \$ 6.50 |  | 167,037.00 | \$ | 20,044 | \$ | 28,062 |  | \$ 215,144 | Level 3 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | If sprinkler system provided or if a 1 -hour fire partition between each dwelling unit is provided, a manual fire alarm system is not required. Otherwise, provide a manual fire alarm system with fire alarm control panel. | 25,698 | sq ft | \$ 1.75 |  | 44,971.50 | \$ | 5,397 | \$ | 7,555 |  | \$ 57,923 | Level 1 |
|  |  | Add combination single station carbon monoxide/smoke detectors with battery backup in each bedroom. New detectors will be hardwired in tandem with existing single station detector outside of bedroom. | 66 | bedroom | \$ 150.00 |  | 9,900.00 | \$ | 1,188 | \$ | 1,663 |  | \$ 12,751 | Level 1 |
|  |  | Provide each sleeping unit with provisions for future notification devices. ADA apartments are to be provided with fire alarm strobes. | 66 | bedroom | \$ 50.00 |  | 3,300.00 | \$ | 396 | \$ | 554 |  | \$ 4,250 | Level 1 |
| Electrical | Dated electrical service. | Replace electrical service and route overhead conductors to below grade. Replace metering cabinets and feeders to each apartment branch panelboard. Replace branch panelboard in apartment since breakers for existing panelboards are not readily available. | 25,698 | sq ft | \$ 4.75 |  | 122,065.50 | \$ | 14,648 | \$ | 20,507 |  | \$ 157,220 | Level 1 |
|  | Dated/inadequate wiring system. | Replace wiring from branch panelboard to wiring devices as it is believed to contain asbestos. Replace all wiring devices to include GFIs in bathrooms and in kitchens. Provide arc fault circuit interrupting (AFCI) protection for lighting and recentacle outlets | 25,698 | sq ft | \$ 3.75 |  | 96,367.50 | \$ | 11,564 | \$ | 16,190 |  | \$ 124,121 | Level 1 |
|  | Window A/C units. | Modify existing window AC unit circuit to serve new central A/C system. | 106 | living/ bedroom | \$ 150.00 |  | 15,900.00 | \$ | 1,908 | \$ | 2,671 |  | \$ 20,479 | Level 2 |
|  | Inadequate lighting. Rooms without natural lighting, such as the bathrooms, are very dark. | Replace all lighting to include living room lighting, kitchen lighting, bedroom lighting, and bathroom liahting. All new lighting will be fluorescent. | 25,698 | sq ft | \$ 3.50 |  | 89,943.00 | \$ | 10,793 | \$ | 15,110 |  | \$ 115,847 | Level 2 |
|  | Lack of egress lighting. | Replace exterior building lighting to incorporate emergency egress lighting. | 1 | Lump Sum | \$ 6,000.00 |  | 6,000.00 | \$ | 720 | \$ | 1,008 |  | \$ 7,728 | \$1500 per building Level 1 |
|  | Inadequate site and parking lot lighting. | Provide new site and parking lot lighting. | 1 | $\begin{aligned} & \hline \text { Lump } \\ & \text { Sum } \\ & \hline \end{aligned}$ | \$ 20,000.00 |  | 20,000.00 | \$ | 2,400 | \$ | 3,360 |  | \$ 25,760 | $\begin{aligned} & 10 \text { lights @ \$2,000ea } \\ & \text { Level 2 } \end{aligned}$ |
| Telecomm | Outdated telecom/IT/TV | Upgrade telecom system to include voice, data, and cable TV in each bedroom and living room. Telecom to be networked to Campus wide system | 25,698 | sq ft | \$ 3.00 |  | 77,094.00 | \$ | 9,251 | \$ | 12,952 |  | \$ 99,297 | Level 3 |
| Special Systems | No access control system | Provide access control systems as required for ADA units. | 8 | $\begin{gathered} 2 \mathrm{per} \\ \text { building } \end{gathered}$ | \$ 2,000.00 |  | 16,000.00 | \$ | 1,920 | \$ | 2,688 |  | \$ 20,608 |  |
|  | No CCTV system | Provide proximity CCTV for general area coverage for each building. | 25,698 | sq ft | \$ 0.45 | \$ | 11,564.00 | \$ | 1,388 | \$ | 1,943 |  | \$ 14,894 | First floor and Second Floors |
| Level 1 Total |  |  |  |  |  |  | 1,184,672 | \$ | 142,204 | \$ | 199,066 |  | \$ 1,525,843 |  |
| Level 2 Total |  |  |  |  |  |  | 430,657 | \$ | 51,679 | \$ | 72,350 |  | \$ 554,686 |  |
| Level 3 Total |  |  |  |  |  |  | 361,131 | \$ | 43,336 | \$ | 60,670 |  | \$ 465,137 |  |

## University Village

University Village has 140 apartments in 14 buildings. This includes 80 two-bedroom and 60 one-bedroom apartments. There is significant structural damage and deterioration in all buildings except 702 and 703 , which have been rebuilt. There are other significant problem areas, but the need to replace the structural framing means essentially the entire building needs replacement. The exceptions are foundations, exterior walls and some newer windows, which could be salvaged with a reconstruction. University Village has 95,507 GSF. Estimated construction costs, including abatement (in 2007 dollars) are:

| Level of Renovation | Est. Cost | Cost/Apt. | Cost/SF |
| :---: | :---: | :---: | :---: |
| Level One Renovations | \$ 15,632,272 | \$111,659 | \$164 |
| Level Two Renovations | - |  |  |
| Level Three Renovations |  |  |  |
| Total | \$15,632,272 | \$111,659 | \$164 |

## University Village

Building Shell Deficiencies in non-remodeled units

- Termite damaged wood structures throughout (Level 1)
- Buildings 707 \& 708 have settled (Level)
- Deteriorating metal decks are a safety hazard (Level 1)
- $50 \%$ of windows on site are original (Level 1)
- Damp/musty interiors due to inadequate waterproofing and ventilation (Level 1)
- Leaky roofs (Level 1)



## University Village

## $\underline{\text { Interior Deficiencies in Non-remodeled Units }}$

- Plastic and dated closet doors and hardware (Level 2)
- Small kitchens with outdated cabinets and appliances.
(Level 3)
- Outdated VCT flooring in kitchen and bathrooms (Level 2)
- Old carpet in bedrooms and living rooms. (Level 2)


## Life Safety Deficiencies

- No sprinkler system or central fire system (Level 1)
- Lack of egress lighting (Level 1)
- Hazardous materials require abatement (Level 1)



Building System Deficiencies in non-remodeled units

- Outdated furnace and AC units. No Central Air. (Level 1)
- No fresh air intake (Level 1)
- No bathroom exhaust (Level 1)
- No range hood (Level 1)
- Outdated piping, hot water heaters, \& plumbing fixtures. (Level 1)
- Outdated electrical service and wiring systems (Level 1)
- Inadequate/Outdated lighting (Level)
- Outdated telecom/IT/TV (Level 2)
- No access control system (Level 2)
- No CCTV system (Level 2)


## University Village

 flood way: 601, 602, 603, 604, 605, 701, 702, 703, 704, 705, 706, 709.

## Typical Existing University Village Floor



DCTEROR STAR
EXILEIOR STAR

- Non-Renovated: four 1-bed, one 1.5-bed, one 2-bed per building

Typical Remodeled Floor


- Previously Renovated: four 2-bed Apartments

2 Bedroom Unit

Building Name: University Village


| Site | Old corrugated pipe storm drains blow out regularly. | Upgrade/replace storm drains to accommodate storm water and reduce on-site flooding. |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Some units flood. The lower units of building 701 are currently used for a maintenance workshop. Level floods during moderate rain. | Significant regrading and/or storm drainage treatment required. |  |  |  |  |  |  |  |  |
| Code | ADA apts in buildings 604 and 702 | None. |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| ACM | Per MU Estimate | Per MU Estimate |  |  |  |  |  |  | \$ 485,392 |  |
|  |  |  |  |  |  |  |  |  |  |  |
| HVAC | Window A/C units. Older Gas furnaces. | Replace existing gas furnace and window A/C units with a new central A/C system with gas furnace and remote 13 SEER air-cooled condensing unit. |  |  |  |  |  |  |  |  |
|  | No fresh air intake to furnace. | Add outside air duct to furnace for ventilation air. |  |  |  |  |  |  |  |  |
|  | No bathroom exhaust. | Add bathroom exhaust. |  |  |  |  |  |  |  |  |
|  | No kitchen range hood. | Add kitchen range hood. |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| Plumbing | Older water heaters. | Replace existing gas-fired domestic hot water heater. |  |  |  |  |  |  |  |  |
|  | Original piping. | Replace all plumbing piping, including underslab waste piping. |  |  |  |  |  |  |  |  |
|  | Older plumbing fixtures. | Replace all plumbing fixtures. |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| Fire Safety | No sprinkler system or central fire alarm system. | Install new wet-pipe sprinkler system, or provide fire alarm system, as indicated below. |  |  |  |  |  |  |  |  |
|  |  | If sprinkler system provided or if a 1-hour fire partition between each dwelling unit is provided, a manual fire alarm system is not required. Otherwise, provide a manual fire alarm system with fire alarm control panel. |  |  |  |  |  |  |  |  |
|  |  | Add combination single station carbon monoxide/smoke detectors with battery backup outside the vicinity of each bedroom. New detectors will be hardwired in tandem with existing single station detector in bedroom. |  |  |  |  |  |  |  |  |
|  |  | Provide each sleeping unit with provisions for future notification devices. ADA apartments are to be provided with fire alarm strobes. |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| Electrical | Dated electrical service; all overhead services. Electrical is original, with the exception of remodeled units 702 and 703 . | Replace electrical service and route overhead conductors to below grade. Replace metering cabinets and feeders to each apartment branch panelboard. Replace branch panelboard in apartment since breakers for existing panelboards are not readilv available. |  |  |  |  |  |  |  |  |



## Plan Options

## Introduction

Options for renovation of each building were considered. Based upon the Facility Condition Analysis, it is apparent that the renovation of University Village is not a financially reasonable option. The structural framing of the floors and roofs needs complete replacement, which leads to complete replacement of nearly all other building systems. Only the exterior walls can be salvaged.

As a result, renovation costs are very similar to new construction costs. With renovation, the buildings will still be in a floodway and the plans will be restricted by the existing exterior wall, window, and stair locations.

New construction was considered as an option for University Village and University Heights. However, new construction was not considered for Tara Apartments due to the relatively new unit plans and lower renovation costs. New construction was not considered for Manor House due to the small site, which would require high-rise construction at higher costs.

## Manor House

The location of Manor House has been consistently popular for students. To meet consistent requests, the University expressed a desire for fewer two-bedroom and studio apartments and more one-bedroom apartments to the extent these renovations are feasible. There has been a more consistent demand for the smaller apartments in this location.

Manor House requires a new exit stair as described in the Facility Condition Analysis. The proposed plan incorporates this stair and converts a number of two-bedroom and studio apartments into new one-bedroom apartments. The current mix of 38 studios, 8 one-bedroom apartments and 32 two-bedroom units is converted to 23 studios, 48 one-bedroom units, and 8 two-bedroom apartments. The total units increases from 78 to 79 .

The estimated construction cost for these renovations is $\$ 1,400,000$. Added to the Facility Condition costs, the total estimated construction cost is $\$ 8,390,397$, which is $\$ 107,342 /$ apartment and $\$ 142 / G S F$.

Cost Summary:


| Level of Renovation |  | Est. Cost |  | Cost/Apt. |
| :--- | :--- | :--- | :--- | :--- |

NOTE: estimates shown in the Plan Options section are construction costs only. These numbers were used to understand the magnitude of effort needed to update each facility and develop baseline data for the Financial Plan options.

## Manor House

## First Floor

Existing Program Summary
(3) studio units
(1) 1 bedroom unit
(4) 2 bedroom units

- 8 Apartments


Existing

Proposed - Program
Upgrade
(2) studio units
(6) 1 bedroom unit
(1) 2 bedroom units

First Floor
-9 Apartments


Proposed Program Summary

1 Bedroom
1.5 Bedroom Unit

2 Bedroom Unit

## Manor House <br> Second through Eighth Floors

Existing Program Summary
(5) studio units
(1) 1 bedroom unit
(4) 2 bedroom units

- 10 Apartments
(per floor, 7 floors)


Existing
 Eighth Floors

Proposed Program Summary
(3) studio units
(6) 1 bedroom unit
(1) 2 bedroom units

- 10 Apartments
(per floor, 7 floors)


## Tara Apartments

Program upgrades are not needed for 218 apartments in Tara Apartments. The current unit plans are consistent with similar newer construction off campus, in terms of arrangement and size. The location of the apartments-adjacent to campus-is very desirable.

Level One improvements, required to meet University requirements, total $\$ 3,0981,375$. Level Two and Three improvements, which are necessary investments to keep the units desirable to potential renters, total an additional $\$ 5,281,437$.

The total estimated renovation construction cost is $\$ 8,372,812$, which is $\$ 38,408 /$ apartment and $\$ 48 / \mathrm{sf}$.

| Cost Summary: <br> Level of Renovation | $\underline{\text { Est. Cost }}$ |  |  |  |
| :--- | :---: | :--- | :---: | :---: |
|  |  |  |  |  |
| Cost/Apt. |  |  |  |  |$\quad$ Cost/SF

NOTE: estimates shown in the Plan Options section are construction costs only. These numbers were used to understand the magnitude of effort needed to update each facility and develop baseline data for the Financial Plan options.

## University Heights

Program upgrades are not needed for University Heights because the 12 one-bedroom and 27 two-bedroom apartments are desirable for this location, given the large number of families.

Given this, the total estimated renovation construction cost is $\$ 2,545,666$, which is \$65,274/apartment and \$90/GSF.

| Cost Summary: |  |  |  |
| :---: | :---: | :---: | :---: |
| Level of Renovation: | Est. Cost | Cost/Apt. | Cost/SF |
| Level One Renovations | \$1,525,843 | \$39,124 | \$58 |
| Level Two Renovations | \$ 554,686 | \$14,223 | \$21 |
| Level Three Renovations | \$ 465,137 | \$11,927 | \$18 |
| Total | \$2,545,666 | \$65,274 | \$90 |

A new construction option was developed in conjunction with planning for University Village. A proposed new two-bedroom unit was used to develop a site plan for 48 apartments in 44,460 GSF. The proposed plans are illustrated in conjunction with the University Village plans, which follow. The estimated building cost is $\$ 7,113,600$ plus $\$ 126,800$ for site work for a total of $\$ 7,240,400$, which is $\$ 150,842 /$ apartment and \$163/GSF.

## University Village

Only new construction was considered as an option for University Village based on the poor condition of the structure. The University expressed a desire for one, two and three-bedroom apartments for this location given the large number of families. There is also a need for single bedroom apartments for guests visiting campus. Parking is desired at a ratio of one space per bedroom. A community center and day care facility is needed to replace the current facilities.

For planning purposes, two-bedroom units were used. One-bedroom apartments are less efficient and three-bedroom apartments are more efficient, so they can be mixed in with only minor impact. To minimize flooding issues, the proposed buildings will be elevated above the flood line.

Typical building plans were developed for the two-bedroom student apartments and the one-bedroom guest apartments. These building plans were used to develop a new University Village site plan, which includes 168 two-bedroom apartments, 12 one-bedroom guest apartments, 7,454 GSF of Community Center, and 3,727 GSF Day Care Facility. The total new construction is 173,945 GSF.

The estimated construction cost is $\$ 28,236,000$. This includes $\$ 27,836,000$ for the buildings and $\$ 400,000$ for sitework. This is the equivalent of $\$ 156,867 /$ apartment and \$163/GSF.

The estimated demolition costs are $\$ 1,002,824.00$ (2007 dollars).

## Proposed University Village \& University Heights Plan



## Proposed Building Guest Apts Floor Plan



## University Heights - Proposed Site Plan

| Program Summary |
| :--- |
| (4) 3 story apt buildings - <br> - (48) 2 bdrm units total |
| - Access to University Village |
| Community Buildings |
| 104 parking spaces |



## University Village - Proposed Site Plan

$\frac{\text { Program Summary }}{\text { (14) } 3 \text { story apt buildings - }}$

- (168) 2bdrm units total

Community Building A -

- lower level - laundry, workshop, storage, mech. room
- 1st floor - community meeting rooms, offices, lobby, studies - 2nd floor - (6) ADA 1 bdrm apts.

Community Building B -

- 1st floor daycare
- 2nd floor - (6) 1 bdrm apts.

344 parking spaces

Note: First Floor Level of Buildings has been raised 4'-0" above current grade.


## University Village Proposed Upgrades



MACKEY MITCHELL

## Summary of Options

| Option | $\underline{\text { Apts. }}$ | $\frac{\text { Construction Cost }(2007)}{\text { Level 1 to Level } 3}$ |  | $\frac{\text { Cost/Apt. }}{\text { Levels } 1-3}$ |
| :--- | :--- | :--- | :--- | :--- |
| Manor House - Renovate | 78 | $\$ 4,088,740-\$ 6,990,397$ | $\$ 52,420-\$ 89,620$ |  |
| Manor House - Upgrade | 79 | $\$ 5,488,740-\$ 8,390,397$ | $\$ 69,478-\$ 107,342$ |  |
| Tara Apartments - Renovate | 218 | $\$ 3,091,375-\$ 8,372,812$ | $\$ 14,181-\$ 38,408$ |  |
| University Heights - Renovate | 39 | $\$ 1,525,843-\$ 2,545,666$ | $\$ 39,124-\$ 65,273$ |  |
| University Heights - New | 48 | $\$ 7,240,400$ | $\$ 150,842$ |  |
| University Village - New | 180 | $\$ 28,236,000$ | $\$ 156,867$ |  |

[^2]

# Graduate \& Family Housing Master Plan Financial Plan 

University of Missouri - Columbia

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## UNIVERSITY OF MISSOURI - COLUMBIA ■ GRADUATE \& FAMILY HOUSING MASTER PLAN

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## FINANCIAL PLAN

## Overview

The financial plan for improvements to the graduate and family student housing (the Apartments) is an derivative of the Residential Life Master Plan (RLMP) for undergraduate housing. Generally, the approach and assumptions for the Apartments are similar to those used in the RLMP. Since the Apartments improvement program is not financially selfsustaining, its viability and success depend significantly on funding subsidies from undergraduate housing. Even with these subsidies, careful control of rental rates and operating costs over time is essential to generate cash flows that can support debt service.

At the core of the financial plan is an Excel financial model that simulates the financial operation of the Apartments. Starting in the current fiscal year, the model considers both the current housing program and planned improvements over the next five years. The model and plan represent a framework for the operation of the Apartments that establishes benchmark revenue and operating cost targets for each year. The annual budgeting and planning cycle for operations and capital projects focuses on the details to achieve these benchmarks. The financial model for the recommended plan is included in this report as Attachment 1.

## Summary of Plan

The development plan for the Apartments consists of the renovation and reconfiguration of the Manor House Apartments, and the renovation of University Heights and Tara Apartments. University Village will continue to operate until the renovation projects are completed and then
vacated and demolished. The program results in a reduction of graduate and family units from a recent maximum of 475 to 336 in five years.

The continued viability of this plan will depend largely on several factors:

- A key assumption of the plan is that revenues can be increased at a faster rate than operating costs and students will be willing to pay a significant premium to live in fully renovated facilities. If inflation drives costs too high to sustain this differential, it may be necessary to suspend the project schedule for a period until rents and operating costs stabilize.
- Development budgets reflect the recent rapid increase of construction costs over the past several years; however, it does not assume that the high rate of increase will continue. If this trend does not slow or reverse itself, higher and higher construction costs will make housing less affordable to more students.

Table 1 summarizes the projects by type, development budget, and scheduled completion.

| Project | Project <br> Type | Revenue <br> Beds/Units | Development <br> Budget | Scheduled <br> Completion |
| :--- | :---: | :---: | ---: | :---: |
| University Heights | Renovation | 39 | $5,017,000$ | Aug-2010 |
| Manor House Apartments | Renovation | 79 | $16,222,000$ | Aug-2011 |
| University Village | Vacate/Demo | 0 | $1,691,000$ | Aug-2011 |
| Tara Apartments | Renovation | 218 | $15,192,000$ | Aug-2012 |
|  |  | 336 | $\$ 38,122,000$ |  |

Table 1: Program and Budget Summary

## FINANCIAL PLAN

UNIVERSITY OF MISSOURI - COLUMBIA ■ GRADUATE \& FAMILY HOUSING MASTER PLAN

## Project Phasing

The plan assumes that University Heights will come off line for FY2010 for renovation, followed by Manor House in FY2011. The renovation of Manor House will include the conversion of two-bedroom apartments to one-bedroom apartments. University Village will be vacated when Manor House returns to service; however, the retirement of University Village can be modified or sub-phased depending on demand. The renovation of Tara Apartments will also begin one building at a time starting in FY2010 and continuing through FY2012. Only 18 units are lost to renovation at any one time over the three-year period. Table 2 illustrates this phasing both graphically and numerically.

| Fiscal Year: | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Existing | $\square$ | Complete | $\square$ | Off Line |  |
| Manor House Apartments | 78 | 78 |  | 79 | 79 | 79 |
| University Heights | 39 |  | 39 | 39 | 39 | 39 |
| University Terrace |  |  |  |  |  |  |
| University Village | 140 | 140 | 140 |  |  |  |
| Tara Apartments | 218 | 200 | 200 | 200 | 218 | 218 |
| Total Revenue Units | 475 | 418 | 379 | 318 | 336 | 336 |
| Change |  | (57) | (39) | (61) | 18 | 0 |
| Total Units Occupled | 410 | 399 | 360 | 302 | 319 | 319 |
| Avg Occupancy Rate | 86.3\% | 95.4\% | 95.0\% | 95.0\% | 95.0\% | 95.0\% |

Table 2: Phasing Plan

Figure 1 illustrates the distribution of units by type over the planning horizon. The number of two-bedroom units decreases most significantly, but the current supply currently exceeds the demand for this unit type.


Figure 1: Distribution by Unit Type by Year

## FINANCIAL PLAN

UNIVERSITY OF MISSOURI - COLUMBIA ■ GRADUATE \& FAMILY HOUSING MASTER PLAN

## Benchmarking and Escalation

The financial plan builds on the current fiscal year; that is, many of the assumptions about future operations derive directly from the current operation. The benchmark year, FY2009, mirrors the current MU operating budget for the Apartments. Escalation of development costs and operating revenues and expenses are the most significant assumptions regarding the financial feasibility of the plan

The recent run-up in construction costs has been considered in project development budgets; however, over the long term, it is not reasonable (nor sustainable) to assume that recent high escalation rates can continue. Consequently, the model assumes that the cost of construction will increase at $3 \%$ annually, which represents a more sustainable long-term average.

The annual increase in revenues relative to operating costs is a key contributor to the development of system debt capacity. The MU plan assumes that rents will increase annually at an average rate of $4 \%$, whereas operating costs will increase at an average rate of $3 \%$. These rates will inevitably fluctuate over the course of the plan; however, it is important that MU maintain the $1 \%$ spread between revenue and operating expense increases to generate the necessary debt capacity for the planned projects.

## FINANCIAL PLAN

## UNIVERSITY OF MISSOURI - COLUMBIA ■ GRADUATE \& FAMILY HOUSING MASTER PLAN

## Revenues

Revenues consist primarily of rental income, plus some minor income from conferences and vending. The current economic occupancy level of the Apartments is approximately $86 \%$. As the number of units decreases due to renovations and the vacating of University Village, the average annual occupancy will increase to $95 \%$ as shown in Figure 2. Occupancy can be controlled to a certain degree by how soon University Village is vacated or how quickly the renovation of Tara Apartments is phased.


## Figure 2: Bed Capacity and Occupancy by Year

Rents increase annually by $4 \%$ for the existing halls and increase by an additional 50\% the year following renovations. Figure 3 represents the impact of the foregoing assumptions regarding benchmark rental rates,
occupancy and escalation. Generally, room rates double in ten years. Once renovations have been completed, which is scheduled for FY2012, the rate of increase in rents can be reduced to equal the annual increase in operating costs.


Figure 3: Average Rent per Unit by Year

## FINANCIAL PLAN

## UNIVERSITY OF MISSOURI - COLUMBIA ■ GRADUATE \& FAMILY HOUSING MASTER PLAN

## Operating Costs

Operating costs for the existing apartments average $\$ 3.84$ per gross square foot. The plan assumes that these rates will continue-subject to escalation-once renovations are completed. Figure 4 demonstrates the composite cost per unit and cost per square foot by year.


Figure 4: Operating Costs by Year

Net revenue minus operating cost yield the Net Operating Income (NOI) from the Apartments. Figure 5 graphically illustrates the impact on the NOI by increasing revenues faster than operating costs. The NOI is the source of funds for non-operating transfers, as well as existing and new debt service. The apartments currently contribute $\$ 52,000$ to University overhead, which the model projects to continue at a rate equal to $2.2 \%$ of net revenue.


Figure 5: Operating Position by Year

FINANCIAL PLAN
UNIVERSITY OF MISSOURI - COLUMBIA ■ GRADUATE \& FAMILY HOUSING MASTER PLAN

## Development Budgets

The development budgets for renovations include the hard cost of construction, infrastructure, design fees, furnishings, project management fees, contingency, financing fees, and inflation. Current costs consider the recent high annual inflation rates of $6 \%$ and higher; however, the plan assumes an annual rate of $3 \%$ beginning in 2009, which is more representative of historical long-term escalation rates. Table 3 provides the detail on the components of the development budgets by project type.

|  | Cost Component | Basis | Renol Maintain | Vacatel Demo |
| :---: | :---: | :---: | :---: | :---: |
| (1) | Construction | \$/GSF | Varies | \$10.50 |
| (2) | Other Construction Costs | \$/GSF | \$11.00 | -\$10.50 |
| (3) | Consultant Fees | \% of (1) - (2) | 6.8\% | 6.8\% |
| (4) | Other Consultant Fees | \% of (3) | 15.0\% | 15.0\% |
| (5) | Project Admin Costs | \% of (1) - (4) | 4.0\% | 4.0\% |
| (6) | Other Project Costs | Per Bed | \$3,000 | \$0 |
| (7) | Project Contingency | \% of (1) - (6) | 10.0\% | 10.0\% |
| (8) | Financing Rate |  | 5.0\% | 5.0\% |
| (9) | Financing Period | Years | 30 | 30 |
| (10) | Issuance Costs |  | 0.0\% | 0.0\% |

Table 3: Development Budget Assumptions
The annual capital requirements and cumulative outstanding debt are shown in Figure 6. The total development budget including escalation for all renovations and new construction is projected to be $\$ 38,122,000$.


Figure 6: Capital Requirements by Year

## Debt Service and Reserves

The plan projects annual debt service based on the assumptions set forth in the foregoing section. As shown in Figure 7, debt service coverage (i.e., NOI/Debt Service) for the Apartments falls well below 1.0 (i.e., breakeven) for approximately 12 years.


Figure 7: Debt Service Coverage by Year
It is not unusual that family housing-whether as new construction or after a substantial renovation - is not financially self-sustaining. It is just not feasible to raise rents to levels sufficient to cover both operating costs and new debt service. Therefore, the Apartments require a subsidy from undergraduate student housing to cover these costs. The University has decide to commit a one-time subsidy of $\$ 5.0$ million to the
apartment reserve fund to maintain a positive cash balance until revenues have escalated sufficiently to cover operations and debt service.

The balance in the Apartments reserve fund represents the overall health of the system. Reserves are vital to fund extraordinary expenses, capital expenses, planned operating deficits, and shortfalls in debt service coverage. Although cash flow from the apartments alone does not provide a 1.0 debt service coverage ratio, with the initial commitment of $\$ 5$ million, the plan projects that housing reserves can remain positive.

Figure 8 shows the projected balance in reserves over the next 15 years. Transfers to and from reserves are represented by the vertical bars, and reserve balances that are restricted to make up a shortfall in debt service coverage are shown in dark blue. Annual earnings on reserve balances assume an earnings rate of $2.00 \%$.


Figure 8: Cash Flow and Reserves by Year

## ATTACHMENTS

UNIVERSITY OF MISSOURI - COLUMBIA ■ GRADUATE \& FAMILY HOUSING MASTER PLAN

ATTACHMENT I: I5-YEAR FINANCIAL PLAN


University of Missouri - Columbia

# GRADUATE \& FAMILY HOUSING MASTER PLAN 

15-Year Financial Plan

Scenario: Final Recommendation

ANDERSON STRICKLER, LLC
18310 Montgomery Village Avenue

University of Missouri - Columbia
GRADUATE \& FAMILY HOUSING MASTER PLAN
Overview
Final Recommendation


University of Missouri - Columbia
GRADUATE \& FAMILY HOUSING MASTER PLAN
Project Summaries
Final Recommendation

|  | Manor House Apartments | University Heights | University Terrace | University Village | Tara Apartments | New University Village 1 | New University Village 2 | New University Heights | Community Building | Child Care Facility | TOTAL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Type: | Reno/Maintain | Reno/Maintain | Vacate/Demo | Vacate/Demo | Reno/Maintain | Not in Plan | Not in Plan | Not in Plan | Not in Plan | Not in Plan |  |
| Reno Scope: | No Work | No Work | No Work | No Work | No Work | No Work | No Work | No Work | No Work | No Work |  |
| EXISTING UNIT COUNTS 100 Residential: Traditional |  |  |  |  |  |  |  |  |  |  |  |
| 200 Residential: Semi-Suites |  |  |  |  |  |  |  |  |  |  |  |
| 300 Residential: Suites |  |  |  |  |  |  |  |  |  |  |  |
| 400 Residential: Apartments Efficiency One Bedroom Apartment Two Bedroom Apartment Three Bedroom Apartment | $\begin{array}{r}38 \\ 8 \\ 32 \\ \hline\end{array}$ | $\begin{array}{r}\text { 12 } \\ 27 \\ \hline\end{array}$ | - | 80 60 | $\begin{array}{r}\text { - } \\ 16 \\ 202 \\ \hline\end{array}$ | - | - | - | - | - | $\begin{array}{r}38 \\ 116 \\ 321 \\ \hline\end{array}$ |
| 500 Residential: Staff <br> Total Existing Units <br> Total Existing Beds | 78 78 | $\begin{aligned} & 39 \\ & 39 \end{aligned}$ | - | $\begin{aligned} & 140 \\ & 140 \end{aligned}$ | $\begin{aligned} & 218 \\ & 218 \end{aligned}$ |  |  | $-$ |  |  | 475 475 |
| PLANNED UNIT COUNTS <br> 100 Residential: Traditional |  |  |  |  |  |  |  |  |  |  |  |
| 200 Residential: Semi-Suites |  |  |  |  |  |  |  |  |  |  |  |
| 300 Residential: Suites |  |  |  |  |  |  |  |  |  |  |  |
| 400 Residential: Apartments Efficiency One Bedroom Apartment Two Bedroom Apartment Three Bedroom Apartment | 23 48 8 | 12 27 | - | - | - 16 202 | - | - | - | - | - | 23 76 237 |
| 500 Residential: Staff <br> Total Planned Units <br> Total Planned Beds | 79 79 | $\begin{aligned} & 39 \\ & 39 \end{aligned}$ |  |  | $\begin{aligned} & 218 \\ & 218 \end{aligned}$ | $-$ | $-$ |  |  | $=$ | 336 336 |
| EXISTING BUILDING PROGRAM Total Area (GSF) | 58,868 | 26,092 | - | 95,507 | 172,587 | - | - | - | - | - | 353,054 |
| PLANNED BUILDING PROGRAM Total Area (GSF) | 58,868 | 26,092 | - | - | 172,587 | - | - | 44,460 | 7,948 | 3,974 | 313,929 |
| PROGRAM STATISTICS <br> Existing Gross Area per Unit Existing Efficiency per Unit Planned Gross Area per Unit Planned Efficiency per Unit | 755 $100 \%$ 745 $100 \%$ | $\begin{array}{r} 669 \\ 100 \% \\ 669 \\ 100 \% \end{array}$ | 0 $0 \%$ 0 $0 \%$ | 682 $100 \%$ 0 $0 \%$ | $\begin{array}{r} 792 \\ 100 \% \\ 792 \\ 100 \% \end{array}$ | 0 $0 \%$ 0 $0 \%$ | 0 $0 \%$ 0 $0 \%$ | 0 $0 \%$ 0 $0 \%$ | 0 $0 \%$ 0 $94 \%$ | 0 $0 \%$ 0 $94 \%$ | $\begin{array}{r} 743 \\ 100 \% \\ 934 \\ 86 \% \end{array}$ |

University of Missouri - Columbia
GRADUATE \& FAMILY HOUSING MASTER PLAN
Project Summaries
Final Recommendation

|  | Manor House Apartments | University Heights | University Terrace | University Village | Tara Apartments | New University Village 1 | New University Village 2 | New University Heights | Community Building | Child Care Facility | TOTAL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Type: | Reno/Maintain | Reno/Maintain | Vacate/Demo | Vacate/Demo | Reno/Maintain | Not in Plan | Not in Plan | Not in Plan | Not in Plan | Not in Plan |  |
| Reno Scope: | No Work | No Work | No Work | No Work | No Work | No Work | No Work | No Work | No Work | No Work |  |
| DEVELOPMENT BUDGET <br> Construction Contract Cost <br> Other Construction Costs <br> Consultant Fees <br> Other Consultant Fees <br> Project Administration Fees <br> Other Project Costs <br> Project Contingency <br> Financing Costs <br> Development Budget <br> Inflated | $\$$ $8,390,397$ <br> 647,548  <br>  610,061 <br>  188,641 <br>  393,466 <br>  237,000 <br>  $1,046,711$ <br>  579,099 <br> $\$$ $12,092,924$ <br> $\$$ $16,222,290$ | $\$$ $2,545,666$ <br>  287,012 <br>  191,206 <br>  71,733 <br>  123,825 <br> 117,000  <br>  333,644 <br>  184,630 <br> $\$$ $3,854,715$ <br> $\$$ $5,017,230$ | $\$$ - <br>   <br>  - <br>  - <br>   <br> $\$$ - | $\$$ $1,002,824$ <br>  - <br>  67,691 <br>  10,154 <br>  43,227 <br>  - <br>  112,389 <br>  13,317 <br> $\$$ $1,249,600$ <br> $\$$ $1,691,218$ | $\$$ $8,372,812$ <br> $1,898,457$  <br> 693,311  <br>  388,765 <br> 454,134  <br> 654,000  <br>  $1,246,148$ <br> $1,484,370$  <br> $\$ 15,191,996$  <br> $\$ 15,191,996$  |  | $\begin{array}{ll} \$ & - \\ & \\ & - \\ & - \\ & - \\ \hline \$ & - \\ \hline & \\ \hline \end{array}$ | $\$$ - <br>  - <br>  - <br>  - <br>  - <br> $\$$ - <br> $\$$ - | $\$$ - <br>  - <br>  - <br>  - <br> $\$$ - <br>   | $\$$ - <br>  - <br>  - <br>  - <br>  - <br> $\$$ - <br> $\$$ - | $\$$ $20,311,699$ <br>  $2,833,017$ <br>  $1,562,268$ <br>  659,293 <br>  $1,014,651$ <br>  $1,008,000$ <br>  $2,738,893$ <br>  $2,261,415$ <br> $\$$ $32,389,235$ <br> $\$$ $38,122,734$ |
| BUDGET STATISTICS <br> Total Cost per Unit Inflated <br> Total Cost per GSF Inflated | $\begin{array}{rr} \$ & 153,075 \\ \$ & 205,345 \\ \$ & 205.40 \\ \$ & 275.60 \end{array}$ | $\$$ 98,839 <br> $\$$ 128,647 <br> $\$$ 147.70 <br> $\$$ 192.30 | $\begin{aligned} & \text { NA } \\ & \text { NA } \\ & \text { NA } \\ & \text { NA } \end{aligned}$ | $\begin{aligned} & \text { NA } \\ & \text { NA } \\ & \text { NA } \\ & \text { NA } \end{aligned}$ | $\$$ 69,688 <br> $\$$ 69,688 <br> $\$$ 88.00 <br> $\$$ 88.00 | $\begin{aligned} & \text { NA } \\ & \text { NA } \\ & \text { NA } \\ & \text { NA } \end{aligned}$ | $\begin{aligned} & \text { NA } \\ & \text { NA } \\ & \text { NA } \\ & \text { NA } \end{aligned}$ | $\begin{array}{ll}  & \mathrm{NA} \\ & \mathrm{NA} \\ \$ & - \end{array}$ |  NA <br>  NA <br> $\$$ - <br> $\$$ - |  NA <br>  <br>  <br> $\$$$\quad-\quad$. | $\$$ 96,397 <br> $\$$ 113,461 <br> $\$$ 103.00 <br> $\$$ 121.00 |
| DEVELOPMENT SCHEDULE <br> Design Start Construction Start Occupancy/Demolition | Nov-2009 Aug-2010 Aug-2011 | Nov-2008 <br> Aug-2009 <br> Aug-2010 | Feb-2007 May-2007 Aug-2007 | Feb-2011 <br> May-2011 <br> Aug-2011 | Nov-2008 Aug-2009 Aug-2012 | Aug-2040 <br> Aug-2040 <br> Aug-2040 | Aug-2040 <br> Aug-2040 <br> Aug-2040 | Aug-2040 <br> Aug-2040 <br> Aug-2040 | Aug-2040 <br> Aug-2040 <br> Aug-2040 | Aug-2040 <br> Aug-2040 <br> Aug-2040 |  |



University of Missouri - Columbia
GRADUATE \& FAMILY HOUSING MASTER PLAN
Phasing Summary


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## Performance Charts

Final Recommendation





University of Missouri - Columbia
GRADUATE \& FAMILY HOUSING MASTER PLAN

## Performance Charts <br> Final Recommendation



Debt Service Coverage


Housing System Pro Forma


|  |  | Fisca | cal Year: |  | 2009 |  | 2010 |  | 2011 |  | 2012 |  | 2013 |  | 2014 |  | 2015 |  | 2016 |  | 2017 |  | 2018 |  | 019 |  | 020 |  | 202 |  | 022 |  | 023 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2 | PRO FORMA DETAIL |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2.1 | Revenues |  | FY2009 |  | 0.0\% |  | 95.0\% |  | 95.0\% |  | 95.0\% |  | 94.6\% |  | 95.0\% |  | 95.0\% |  | 95.0\% |  | 95.0\% |  | 95.0\% |  | 95.0\% |  | 95.0\% |  | 95.0\% |  | 95.0\% |  | 95.0\% |
| 2.11 | AY Rent - Singles Beds |  |  | \$ | 2,698 | \$ | 2,482 | \$ | 2,393 | \$ | 2,499 | \$ | 3,479 | \$ | 3,584 | \$ | 3,691 | \$ | 3,802 | \$ | 3,916 | \$ | 4,033 | \$ | 4,154 | \$ | 4,279 | \$ | 4,407 | \$ | 4,540 | \$ | 4,676 |
| 2.12 | AY Rent - Doubles Beds |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | . |  | . |  |  |  |  |
| 2.13 | AY Rent - Triples Beds |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | - |  | - |  | - |  |  |  | - |  | . |  | - |  |  |
| 2.14 | AY Rent - Quads Beds |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2.15 | Gross Rental Income |  |  |  | 2,698 |  | 2,482 |  | 2,393 |  | 2,499 |  | 3,479 |  | 3,584 |  | 3,691 |  | 3,802 |  | 3,916 |  | 4,033 |  | 4,154 |  | 4,279 |  | 4,407 |  | 4,540 |  | 4,676 |
| 2.16 | Less: Vacancy (\$) |  |  |  | (371) |  | (114) |  | (120) |  | (125) |  | (174) |  | (179) |  | (185) |  | (190) |  | (196) |  | (202) |  | (208) |  | (214) |  | (220) |  | (227) |  | (234) |
| 2.17 | Less: Staff Beds (\$) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2.18 | Other Income |  |  |  | 47 |  | 47 |  | 45 |  | 47 |  | 66 |  | 68 |  | 70 |  | 72 |  | 74 |  | 77 |  | 79 |  | 81 |  | 84 |  | 86 |  | 89 |
| 2.19 | Total Net Revenue |  | 2,238 |  | 2,374 |  | 2,415 |  | 2,319 |  | 2,422 |  | 3,371 |  | 3,473 |  | 3,577 |  | 3,684 |  | 3,795 |  | 3,908 |  | 4,026 |  | 4,146 |  | 4,271 |  | 4,399 |  | 4,531 |
| 2.2 | Operating Expenses |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2.21 | Allocated Costs |  | 1,354 |  | 1,354 |  | 1,312 |  | 1,051 |  | 1,079 |  | 1,112 |  | 1,145 |  | 1,180 |  | 1,215 |  | 1,251 |  | 1,289 |  | 1,328 |  | 1,367 |  | 1,408 |  | 1,451 |  | 1,494 |
| 2.22 | Unallocated Costs |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2.23 | Total Operating Expenses |  | 1,354 |  | 1,354 |  | 1,312 |  | 1,051 |  | 1,079 |  | 1,112 |  | 1,145 |  | 1,180 |  | 1,215 |  | 1,251 |  | 1,289 |  | 1,328 |  | 1,367 |  | 1,408 |  | 1,451 |  | 1,494 |
| 2.3 | Net Operating Income | s | 884 | \$ | 1,020 | \$ | 1,102 | \$ | 1,268 | \$ | 1,342 | \$ | 2,260 | \$ | 2,327 | \$ | 2,397 | \$ | 2,469 | \$ | 2,543 | \$ | 2,619 | \$ | 2,698 | \$ | 2,779 | \$ | 2,862 | \$ | 2,948 | \$ | 3,037 |
| 2.4 | Mandatory Transfers |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2.41 | Campus Overhead |  | (52) |  | 52 |  | 53 |  | 51 |  | 53 |  | 74 |  | 76 |  | 78 |  | 81 |  | 83 |  | 86 |  | 88 |  | 91 |  | 94 |  | 96 |  | 99 |
| 2.42 | Other Non-Operating Costs |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2.43 | Total Mandatory Transfers |  | (52) |  | 52 |  | 53 |  | 51 |  | 53 |  | 74 |  | 76 |  | 78 |  | 81 |  | 83 |  | 86 |  | 88 |  | 91 |  | 94 |  | 96 |  | 99 |
| 2.5 | Debt Service |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2.51 | Existing Debt Service |  | 589 |  | 686 |  | 686 |  | 686 |  | 686 |  | 686 |  | 686 |  | 686 |  | 686 |  | 566 |  | 566 |  | 566 |  | 566 |  | 566 |  | 566 |  | 566 |
| 2.52 | New Debt Service |  |  |  |  |  |  |  | 326 |  | 1,492 |  | 2,480 |  | 2,480 |  | 2,480 |  | 2,480 |  | 2,480 |  | 2,480 |  | 2,480 |  | 2,480 |  | 2,480 |  | 2,480 |  | 2,480 |
| 2.53 | Total Debt Service |  | 589 |  | 686 |  | 686 |  | 1,012 |  | 2,177 |  | 3,166 |  | 3,166 |  | 3,166 |  | 3,166 |  | 3,046 |  | 3,046 |  | 3,046 |  | 3,046 |  | 3,046 |  | 3,046 |  | 3,046 |
| 2.60 | Net Cash Flow | s | 347 | \$ | 282 | \$ | 364 | \$ | 205 | \$ | (888) | \$ | (980) | \$ | (914) | \$ | (847) | \$ | (777) | \$ | (586) | \$ | (512) | \$ | (436) | \$ | (358) | \$ | (277) | \$ | (194) | \$ | (108) |
| 3 | RESERVE FUND |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3.1 | Capital Renewal Backlog |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3.11 | Beginning Backlog |  |  |  | - |  | - |  | - |  | - |  | - |  | - |  | - |  | - |  | - |  |  |  | - |  | - |  | - |  |  |  |  |
| 3.12 | Scheduled Renewals |  |  |  | - |  | - |  | - |  |  |  |  |  | - |  | , |  | - |  |  |  |  |  |  |  | - |  |  |  |  |  |  |
| 3.13 | Less: Capital Expenses |  |  |  | - |  |  |  |  |  |  |  |  |  |  |  |  |  | - |  | - |  |  |  |  |  | - |  | - |  |  |  |  |
| 3.14 | Less: Renovations |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | - |  | - |  |  |  |  |
| 3.15 | Ending Backlog |  |  | \$ | - | \$ | - | \$ | - | \$ | - | \$ | - | \$ | - | \$ | - | \$ | - | \$ | - | \$ | - | \$ | - | \$ | - | \$ | - | \$ | - | \$ | - |
| 3.2 | Reserve Fund Activity |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3.21 | Balance Forward |  |  |  | 5,000 |  | 5,382 |  | 5,853 |  | 6,176 |  | 5,411 |  | 4,539 |  | 3,716 |  | 2,943 |  | 2,225 |  | 1,683 |  | 1,205 |  | 793 |  | 452 |  | 184 |  | (10) |
| 3.22 | Net To (From) Reserves |  | 347 |  | 282 |  | 364 |  | 205 |  | (888) |  | (980) |  | (914) |  | (847) |  | (777) |  | (586) |  | (512) |  | (436) |  | (358) |  | (277) |  | (194) |  | (108) |
| 3.23 | Earnings On Average Balance |  |  |  | 100 |  | 108 |  | 117 |  | 124 |  | 108 |  | 91 |  | 74 |  | 59 |  | 44 |  | 34 |  | 24 |  | 16 |  | 9 |  |  |  |  |
| 3.30 | Ending Balance | S | 347 | \$ | 5,382 | \$ | 5,853 | \$ | 6,176 | \$ | 5,411 | \$ | 4,539 | \$ | 3,716 | \$ | 2,943 | \$ | 2,225 | \$ | 1,683 | \$ | 1,205 | \$ | 793 | \$ | 452 | \$ | 184 | \$ | (10) | \$ | (118) |
| 3.31 | Restricted for Debt Coverage |  |  |  | - |  |  |  | - |  | 835 |  | 906 |  | 838 |  | 769 |  | 697 |  | 503 |  | 426 |  | 348 |  | 267 |  | 183 |  | 97 |  | 9 |













[^0]:    NOTE: estimates shown in the Facility Condition Analysis section are
    construction costs only. These numbers were used to understand the magnitude of effort needed to update each facility and develop baseline data for the financial plan options.

[^1]:    NOTE: estimates shown in the Facility Condition Analysis section are construction costs only. These numbers were used to understand the magnitude of effort needed to update each facility and develop baseline data for the financial plan options.

[^2]:    NOTE: estimates shown in the Plan Options section are construction costs only. These numbers were used to understand the magnitude of effort needed to update each facility and develop baseline data for the Financial Plan options.

