

**KANSAS STATE**  
**UNIVERSITY**

**NEW ACADEMIC CENTER**

Program and Concept Study

September 2021

Salina

Aerospace and Technology Campus



KANSAS STATE - SALINA  
AEROSPACE & TECHNOLOGY CENTER

**KANSAS STATE UNIVERSITY**  
**FOUNDATION**

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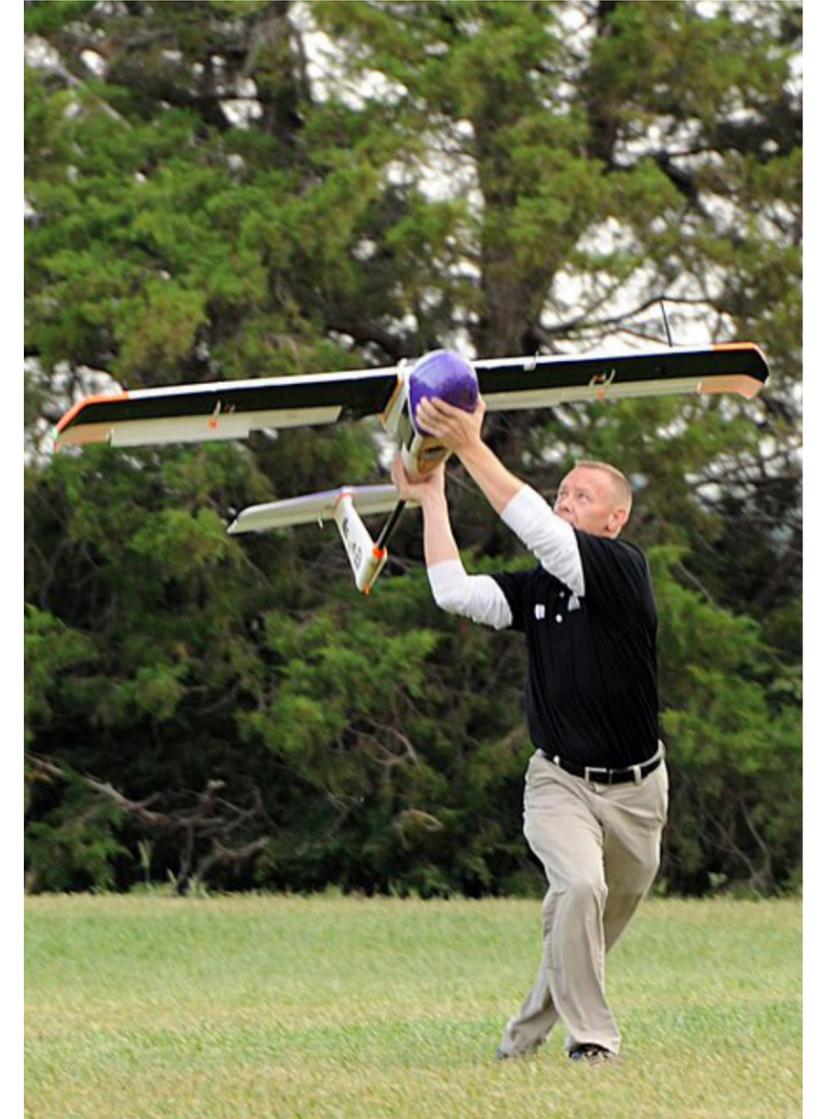
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PLANNING SCOPE / PROCESS

The study establishes the scope and estimated costs for a new state-of-the-art academic teaching and research center for integrated studies in Aviation Technology, Robotics, Automation, and Advanced Manufacturing. It also develops a strategy for consolidating the overall campus footprint to reduce deferred maintenance liabilities by demolishing seven aging and unsatisfactory buildings.

The study was conducted using the three-step planning process described below.

01

Program Confirmation

- Access existing campus and building conditions
- Develop building space program and site design requirements
- Evaluate alternate sites for new buildings and identify preferred options
- Develop space consolidation strategies

02

Concept Development

- Conceptual site plan and building organization diagrams
- ROM cost estimates for alternative planning scenarios
- Identify preferred planning scenario(s) for future development

03

Fundraising Material & Concept Report

- Final concept site plan
- Conceptual floor plans
- Building space program
- 3-D Renderings
- ROM conceptual cost estimate and timeline
- Final report

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## PROJECT OVERVIEW



K-STATE AEROSPACE AND TECHNOLOGY CAMPUS LOCATION MAP

**BACKGROUND**

K-State Aerospace and Technology Campus at Salina is the home of the University’s College of Technology and Aviation. K-State Salina offers degree programs in the fields of engineering technology and aviation, consisting of associate, bachelor and master’s degrees. The College’s three departments are Aviation, Integrated Studies, and Unmanned Aircraft Systems (UAS).

Approximately 800 students are currently enrolled at K-State Salina. Approximately 85 percent of the student body comes from Kansas and 80 percent attend on a full-time basis. The campus also hosts the PolyCATS Academy, which is comprised of high school students who utilize the campus’ facilities for coursework and can complete an associate degree before graduation. K-State Salina has been experiencing enrollment growth since 2018 and projects continued enrollment growth to 1,200 - 1,500 students over the next 25 years.

The focus of the campus is around the student experience and career readiness, and it emphasizes innovative learning, real-world experiences, and industry connections. Campus facilities include multiple teaching laboratories for student projects, multiple aircraft hangars, an open-air flight pavilion for the UAS program, and three runways at the Salina Airport which is directly west of the campus.

K-State Salina has unique academic space needs: its students occupy class labs for 3 - 4 hours at a time; flight students, which represent ~60% of enrollment, access and interact with aircraft for one-on-one instruction; and in the College’s

Aviation Maintenance program, section sizes are limited by FAA capacity regulations and competency is based on 2,000 hours of instruction. The Aviation Department anticipates as many as 300 - 350 new students per year by 2045, which in addition to impacting physical space, will impact flight schedules which translates to personnel, fleet size, and parking.

**PROJECT VISION AND PRIORITIES**

K-State Salina’s Campus Vision document describes aligning the institution’s vision with the Global Aviation Initiative to realize success, and articulates the following vision for the campus:

*Kansas State University’s Aerospace and Technology Campus will be a global leader in aerospace innovation and talent development.*

*The campus will advance the transformation of the aerospace industry through innovative education, influential research, entrepreneurial thinking, and technology centered, sustainable solutions to complex industry problems.*

To achieve the vision, three pillars / integrated areas of strength form the foundation for K-State Salina’s leadership in the field of Systems Engineering:

- Manned Aviation
- Unmanned Systems
- Advanced Manufacturing

As it looks to the future, K-State Salina has established parallel priorities to align it’s campus facilities plan with it’s strategic goals and objectives including:

1. Developing new facilities to support the University’s teaching, research, and extension mission, evolving academic programs, and current and projected enrollment growth through 2045.

2. Creating a plan to decommission and demolish aging unsatisfactory buildings to consolidate the campus building footprint and reduce significant deferred maintenance liabilities.

**PROJECT GOALS AND OBJECTIVES**

The study identified the following goals and objectives:

- Develop a new academic teaching and research facility for Integrated Studies that will allow K-State Salina to diversify and align academic program curriculum to support the pressing needs of industry workforce development, accommodate current and projected enrollment growth, and replace outdated and undersized spaces in Technology Center, Technology Center West, the UAS Laboratory, and the Composites Building.
- Repurpose and maximize the utilization of existing facilities in satisfactory condition including Technology Center and Technology Center West for centralized student services and auxiliary campus service uses to support a new model for student services delivery.
- Accommodate enrollment growth in the Aviation Flight and Aviation Maintenance programs by freeing up space in the Aviation Center / Stevens Flight Center for the flight program’s expansion and relocate Aviation Maintenance to new facilities at some point in the future.

- Develop the physical campus to improve the pedestrian and overall student experience by creating an identifiable pedestrian oriented academic core at the heart of the campus.
- Improve the campus arrival experience with the creation of a new campus gateway from Magnolia Road. Move toward a more attractive and sustainable campus grounds maintenance program by establishing native grasses and walking trails, etc.
- Reduce the need for off-campus leased space.

This study was informed by the land use strategies recommended in the 2013 Campus Master Plan including reinforcing the campus’s central academic core, creating a welcoming new campus gateway / entrance (as an extension of Magnolia Road), and organizing student parking at the campus perimeter.

**EXISTING CAMPUS**

K-State Salina’s campus is located on the west side of Salina directly adjacent to the Salina Airport. Magnolia Road is a major east / west connector and links the campus to Salina proper, and Centennial Avenue, which runs along the east edge of the campus, is a major north / south connector along Salina’s west side.

The campus was originally the site of Schilling Air Force Base, and original buildings from the 1950s and earlier remain in use. The campus is comprised of 21 freestanding buildings, and in addition there are three structures (shown as white on the campus map) which are owned by the Salina Airport Authority. Several of the older buildings have been adapted to academic teaching use or support uses; generally the teaching environments in these older buildings are not configured for current pedagogy and modes of education. In addition, the majority of these buildings are reaching the end of their service life and present the campus with significant deferred maintenance liabilities.

The dispersed nature of the campus buildings combined with large open expanses of green space between buildings does not contribute to the creation of a traditional university campus feel or strengthen a sense of academic community. The campus’ interior road network is also a holdover

from the site’s use as an Air Force base and does not support intuitive wayfinding.

Newer campus buildings including the Technology Center, Technology Center West, College Center, and Student Life Center are attractive, in good condition, collocated, and begin to create a sense of academic community. Despite their fair condition the majority of the instructional teaching labs in the Technology Center and Technology Center West are undersized and organized in a manner that does not encourage interdisciplinary teaching and research.

Schilling and Harbin residence halls, just north of the College Center, and a third residence hall slated for completion in 2022 create an identifiable residential zone.

**EXISTING BUILDING CONDITIONS**

The campus’ 21 buildings and the two structures it leases from the Salina Airport Authority are summarized on the following chart which includes existing square footage (GSF) and building condition data for each structure. The study focused on the buildings used for academic and support facilities:

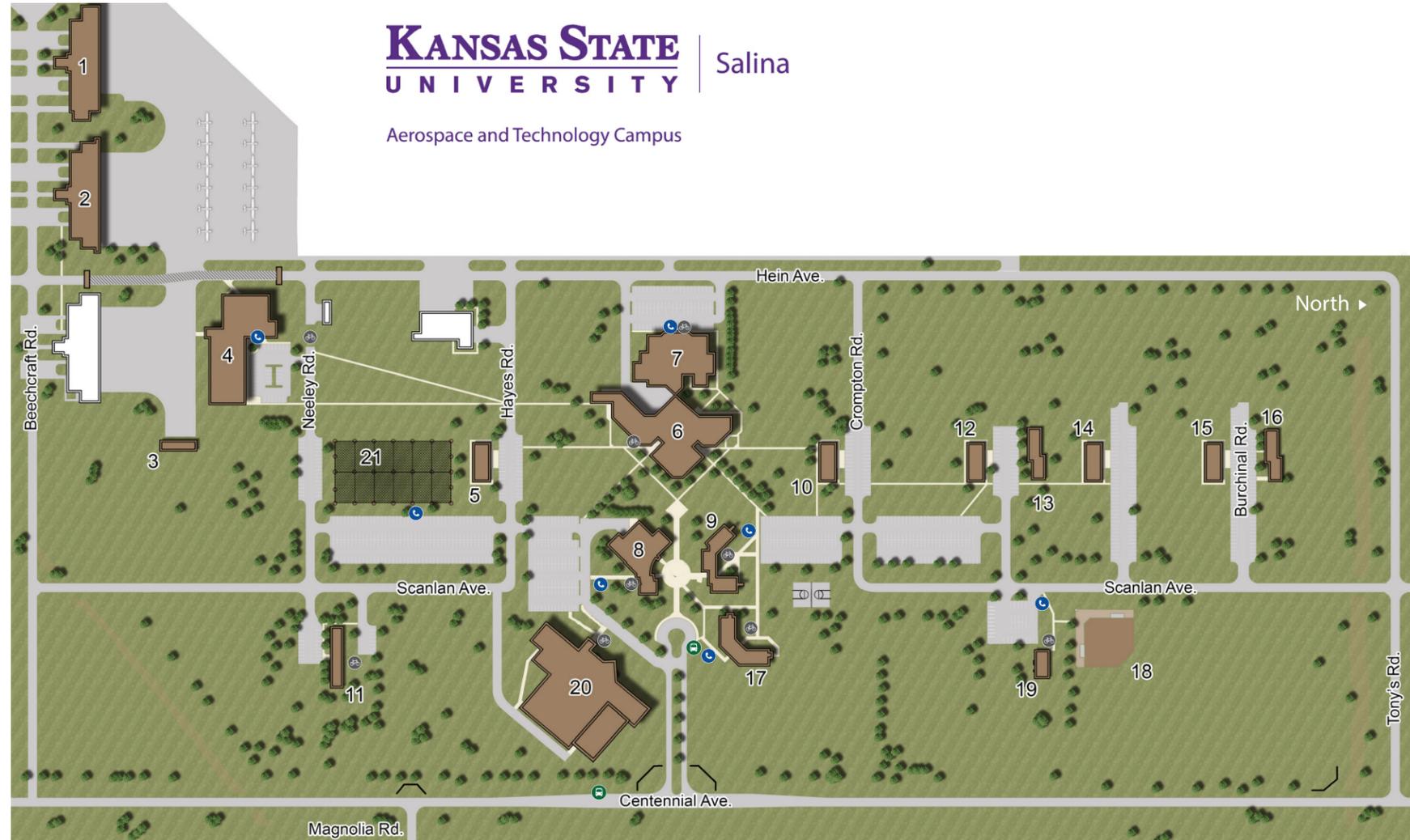
- (15) Campus Buildings - ~245,330 GSF
- (2) Leased Buildings - ~12,349 GSF

The campus’ Student Life Facilities, at the bottom of the chart, are not included in the study. The UAS

Flight Pavilion is open air and is not included in the total GSF calculation for existing buildings.

The existing condition information is from the 2020 Kansas Board of Regents (KBOR) Report on State University Building Inventory, Space Utilization and Facilities Condition. For each building, the report includes a Facilities Condition Index (FCI), which represents cost of deferred maintenance divided by estimated replacement value. The higher the FCI, the poorer condition of the facility. The FCI is translated to a letter grade scale from Excellent (A) through Deficient (F).

The planning study included a tour of the Technology Center, Technology Center West, Composites Building, and the Aviation Center / Stevens Flight Center. Additional buildings were reviewed with building users to confirm existing space use. (See existing building floor plans in the Appendix).



- |                            |                                     |                               |
|----------------------------|-------------------------------------|-------------------------------|
| 1 Aeronautical West Hangar | 9 Schilling Hall                    | 17 Harbin Hall                |
| 2 Aeronautical East Hangar | 10 Tullis Building                  | 18 Thaemert Park/Sports Field |
| 3 Composite Building       | 11 Kuhlman Center                   | 19 Sports Support Facility    |
| 4 Stevens Flight Center    | 12 Outreach Center                  | 20 Student Life Center        |
| 5 UAS Laboratory           | 13 Extension Center                 | 21 UAS Flight Pavilion        |
| 6 Technology Center        | 14 Construction Lab                 |                               |
| 7 Technology Center West   | 15 Facilities Maintenance - Shops   |                               |
| 8 College Center           | 16 Facilities Maintenance - Offices |                               |

Academic & Support Facilities						Existing Building GSF			Building Condition Data (2020 KBOR Report)		Estimated Operating & Deferred Maintenance Costs for Buildings Proposed to be Demolished		
Campus Plan #	Year Const.	Univ. Bldg. #	Building Name	Existing Use	On-Campus GSF	Leased Space GSF	Total GSF	Facilities Condition Index (FCI)	FCI Grade Scale (A-F)	Annual Utility Cost (2020)	FCI Cost (KBOR Asset Overview 2021)	Renewal Cost to 90% (KBOR 2020 Study)	
1	1954	703	Aeronautical West Hangar	Hangar	29,952			0.26	B				
2	1956	704	Aeronautical East Hangar	Hangar	28,247			0.24	B				
3	1942	705	Composites Building	Teaching Lab (AVM Program)	2,100			0.35	C	\$1,927	\$225,234	\$130,774	
4	1990	706	Aviation Center/Stevens Flight Center	Aviation Dept. Office / Flight and AVM Programs	39,071			0.30	C				
5	1956	708	U.A.S Laboratory	Unmanned Aircraft Systems Teaching Lab	5,537			0.28	B	\$4,060	\$452,942	\$253,047	
6	1985	709	Technology Center	Library / Classrooms / Teaching Labs / Faculty Offices	66,876			0.13	A				
7	1985	709	Technology Center West	Classrooms / Teaching Labs / Faculty Offices / Campus IT				0.13	A				
8	1995	710	College Center	Campus Administrative Offices	25,162			0.26	B				
10	1956	712	Tullis Building	Faculty Office / Student Support Services	5,774			0.34	C	\$2,248	\$482,612	\$334,645	
11	1955	713	Kuhlman Center (Welcome Center)		6,530			0.13	A				
12	1956	714	Outreach Center	Professional Education and Outreach	5,687			0.01	A				
13	1966	715	Extension Center (formerly Sci. Ctr.)	Central KS Extension / Campus Security Office	9,873			0.31	C	\$5,559	\$1,197,633	\$546,935	
14	1956	716	Construction Lab	Professional Education and Outreach	5,537			0.36	C	\$2,525	\$436,073	\$302,193	
15	1956	717	Facilities Maintenance - Shops	Garage / Wash Bay / PME Shop / Offices	5,537			0.56	D	\$6,609	\$813,923	\$592,697	
16	1955	718	Facilities Maintenance - Offices	Postal Room / Carpentry Shop / Storage	9,447			0.55	D	\$1,606	\$1,317,109	\$998,658	
Adj. Off-Site		820	SCE 101 - Off Neeley Road	Faculty Offices / Classroom		2,296							
21	2016	708A	Airport Authority Owned Hangar	UAS Applied Aviation Research Center		10,053							
				Open air pavilion for unmanned aerial vehicles	0								
<b>Subtotal (GSF)</b>					<b>245,330</b>	12,349	257,679			\$24,534	\$4,925,526	\$3,158,949	
Student Life Facilities													
9	1994	711	Schilling Hall	Student Housing	20,940			0.25	B				
17	1997	719	Harbin Hall	Student Housing	19,907			0.25	B				
18			Thaemert Park / Sports Field										
19	2005	721	Sports Support Facility		1,922			0.03					
20	2009	722	Student Life Center		37,628			0.08					
<b>Subtotal (GSF)</b>					<b>80,397</b>								
<b>TOTAL GSF EXISTING ON-CAMPUS BUILDINGS</b>					<b>325,727</b>								

Per KBOR facilities data, the asset value of the buildings proposed to be demolished (in gray) is \$4.9M, compared with the cost of \$3.2M to correct building deficiencies (renewal to FCI 0.1 or 90 percent condition)

## BUILDING CONSOLIDATION STRATEGY

K-State Salina has proposed seven aged structures, totaling 43,805 GSF, to be decommissioned / demolished following the construction of a new Academic Center to reduce ongoing and deferred maintenance liabilities. The buildings are from the 1940s, 50s, and 60s with FCIs in the C and D range, (with the exception of the UAS Laboratory, noted to be a “B”).

- Composites Building (#3) - 1942
- UAS Laboratory (#5) - 1956
- Tullis Building (#10) - 1956
- Extension Center (#13) - 1966
- Construction Lab (#14) - 1956
- Facilities Maintenance Shops (#15) - 1956
- Facilities Maintenance Offices (#16) - 1955

Construction of a new Academic Center is the first step in implementing a campus building consolidation strategy. Construction of the new Academic Center will allow unsatisfactory teaching labs in the Technology Center and Technology Center West to be rightsized and collocated.

Vacated spaces in the Technology Center and Technology Center West can then be repurposed for use by student services and auxiliary campus support service functions which currently occupy Tullis Building, Extension Center, Construction Lab and Facilities Maintenance Shops and Offices buildings.

In addition, K-State Salina proposes to convert the Outreach Center (#12) to leased space for the Central Kansas Extension Office which is currently housed in the Extension Center, and proposes to move the UAS Department’s Applied Aviation Research Center (AARC) from its off-site leased location to the main campus.



BUILDING #3 | COMPOSITES BUILDING



BUILDING #10 | TULLIS BUILDING



BUILDING #13 | EXTENSION CENTER



BUILDING #15 | FACILITIES MAINTENANCE



BUILDING #5 | UAS LABORATORY



BUILDING #12 | OUTREACH CENTER



BUILDING #14 | CONSTRUCTION LAB



BUILDING #16 | FACILITIES MAINTENANCE



TEACHING LAB IN TECHNOLOGY CENTER



TEACHING LAB IN TECHNOLOGY CENTER



TEACHING LAB IN TECHNOLOGY CENTER



TEACHING LAB IN EXTENSION CENTER #13



OFFICE IN FACILITIES BUILDING #16



STORAGE ROOM IN FACILITIES BUILDING #16



SHOP IN MAINTENANCE BUILDING #15



COMPUTER LAB IN TULLIS BUILDING #10



CONFERENCE ROOM IN TULLIS BUILDING #10

### PROGRAMMING OVERVIEW

The study developed space programs for three components / strategies as part of K-State Salina's future facilities plan:

- New Academic Center
- Aviation Maintenance Program Relocation
- Technology Center and Technology Center West Backfill

### NEW ACADEMIC CENTER

The program vision for the new Academic Center is to collocate instructional and research laboratories supporting the College's Integrated Studies and UAS Departments in a state-of-the-art facility to:

- Further K-State Salina's multidisciplinary approach to engineering education
- Provide teaching and research laboratories that simulate real-world environments and support applied education
- Provide an environment that appeals to industry partners and prospective students
- Create a new campus gateway and entry experience for the campus

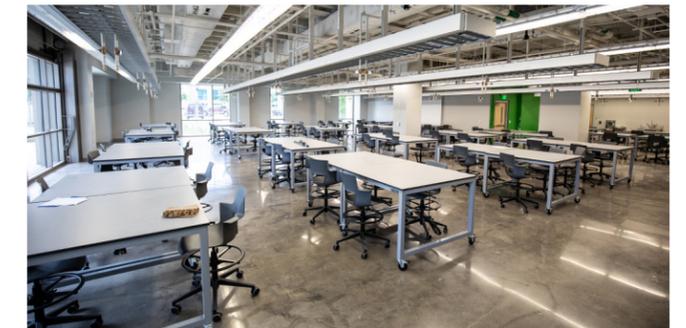
The following precedent images represent the types of spaces that will be found in the new Academic Center.



WICHITA STATE UNIVERSITY - JOHN BARDO CENTER LOBBY



BOSTON UNIVERSITY - ENGINEERING PRODUCT INNOVATION CENTER (EPIC) - ROBOTICS LAB



TEXAS A&M - ZACHRY ENGINEERING COMPLEX - MULTIDISCIPLINARY LAB

## AVIATION PROGRAM EXPANSION

The Aviation Department is housed in the Aviation Center / Stevens Flight Center (Building #4) which is utilized to capacity. Growth trends in both the professional pilot / aviation program and in the Aviation Maintenance (AVM) program supports the need for additional learning / educational space.

- The Flight Program's space needs include hangar space for maintenance of its aircraft and additional spaces for instruction - i.e., kiosks for briefing / debriefing exercises, classrooms, and faculty offices.

In order to meet the Flight Program's immediate short term need for additional instructional space, the phase 1 Academic Center space program includes (2) large general use classrooms which will allow (3) existing general use classrooms in Building #4 to be converted to expanded instruction space for the flight program.

## AVM PROGRAM RELOCATION

The planning process identified the need for an expanded AVM facility as enrollment grows in this popular program.

The concept study anticipates future construction of a new AVM building to meet this need and allow Building #4 to be dedicated for use by the Aviation Flight Program.

- The program vision for AVM's facilities is to support an increase in capacity from (1) 25-student cohort up to (3) 25-student cohorts in state-of-the-art facilities with direct runway access.



BUILDING #4



AVM HANGER



FLIGHT SIMULATOR

## TECHNOLOGY CENTER AND TECHNOLOGY CENTER WEST BACKFILL

The program vision for the future Technology Center Building complex is to serve as the home for consolidated Auxiliary Campus Services, Student Services functions, and Professional Education and Outreach which are operating in the aged structures targeted for decommissioning / demolition. These services would be collocated with the existing Library and relocated Testing Center to provide a new centralized hub for Student Support Services at the heart of campus.

- Student Services groups include Student Support Services, Upward Bound Program, Student Life, and Student Clubs and Organizations. Existing space for these functions is currently located in multiple buildings including Tullis Building (#10).
- Auxiliary Campus Services is comprised of the Campus Operations team (Facilities, IT, and Security)
- Professional Education and Outreach conducts professional training sessions oriented to the community and supports life long learning.



JOHNSON COUNTY COMMUNITY COLLEGE - STUDENT CENTER



KANSAS STATE UNIVERSITY - COLLEGE OF BUSINESS ADMINISTRATION



KANSAS STATE UNIVERSITY - HALE LIBRARY

**PROGRAMMING ASSUMPTIONS**

The following assumptions were developed in discussions with the project steering committee and form the basis for the new Academic Center Space Program.

- **Planning time frame to 2045.** The program includes modest increases for future staff and faculty.
- **Increase capacity of general-purpose classrooms.** Increase existing classroom capacity from 24-student to 40-students to improve space utilization, teaching efficiency and support active learning.
- **Maintain teaching lab capacities of 20-students.** Size basic science teaching labs (Chemistry, Physics) for 24-students to allow for growth.
- **Create interdisciplinary instructional / research labs.** Collocate and configure integrated studies, robotics and automation, and technology and computer systems teaching labs to simulate real-world environments that student will encounter in Industry. Develop a Composite Structures Center of Excellence (formerly Metallurgy and Composites labs).
- **Consolidate academic facilities in satisfactory condition.** Primarily the Aeronautical East and West Hangars and the Aviation Center / Stevens Flight Center.
- **Collocate staff groups.** Auxiliary campus services and student support services work groups are currently distributed. Collocation will improve work processes and access.



TEXAS A&M - ZACHRY CENTER - INTERDISCIPLINARY TEACHING LAB

**PROJECTED SPACE NEEDS**

The following tables summarize the space program for the new Academic Center, the Aviation Maintenance Program Relocation, and Technology Center and Technology Center West Backfills.

**NEW ACADEMIC CENTER**

The new Academic Center space program totals 59,901 NSF / 98,484 GSF (not including AARC) and is proposed as a two phase building project.

Construction of phase 1 of the Academic Center will alleviate pressure on the Flight Program space needs in Building #4 and will allow the building consolidation process to begin as functions in aging campus buildings are relocated into Technology Center and Technology Center West.

The programming exercise developed strategies to optimize the utilization of general-purpose classrooms. The new Academic Center space program includes (9) classrooms sized for active learning (35 NSF/student) which will replace (12) existing classrooms:

- Aviation Center (Building #4) - (3) General-Purpose Classrooms are proposed to be converted for use by the Aviation Flight program
- Technology Center complex (Building #6, #7) - (9) General-Purpose Classrooms are proposed to be converted for Campus Operations, Professional Education and Outreach, and Student Services

(See Appendix for Comparison of Existing versus Proposed General-Purpose Classrooms for detailed information)

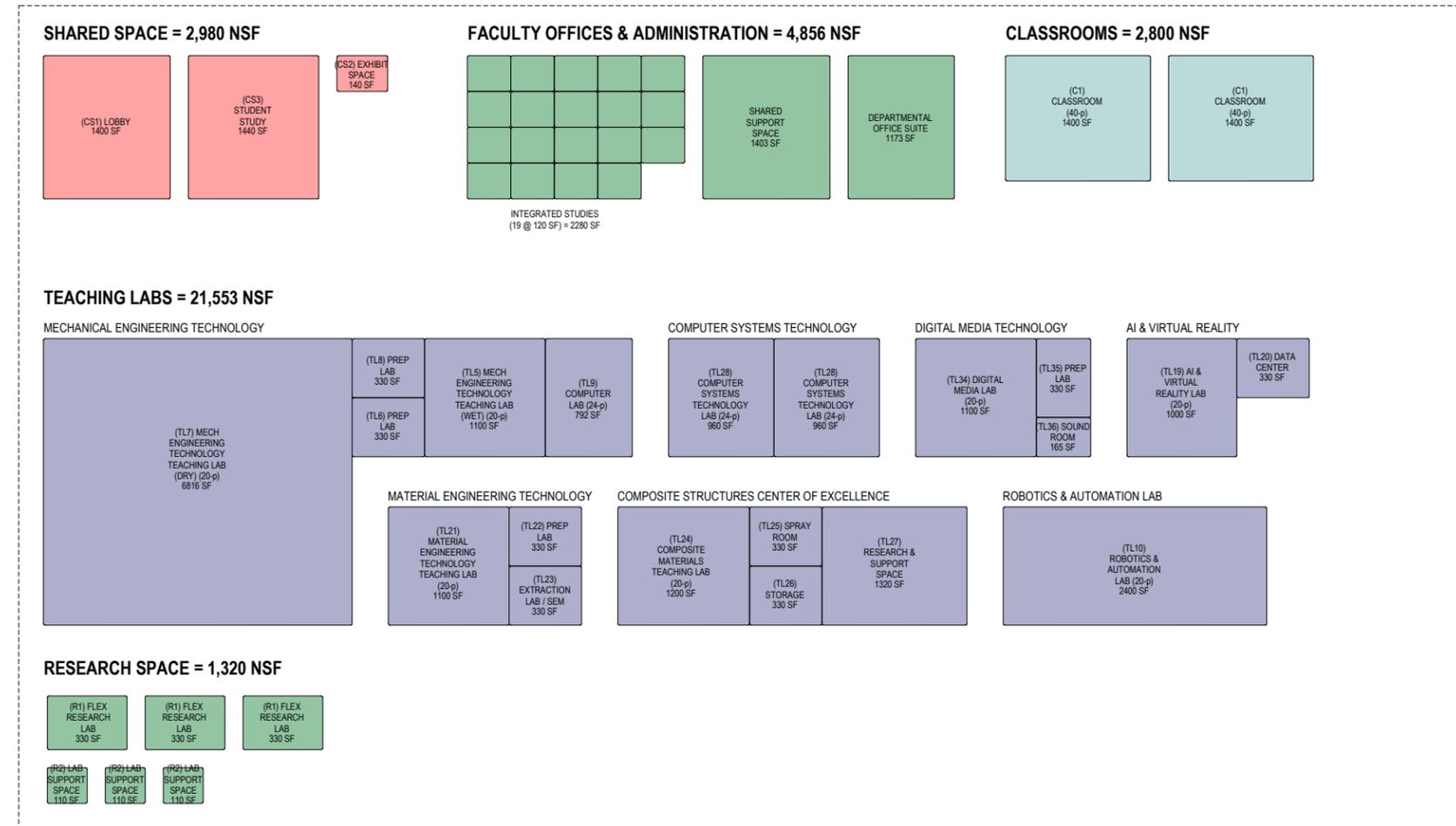
New Academic Center Space Program Summary - Phase 1	
<b>PUBLIC SPACE</b>	<b>2,980</b>
Building Lobby / Central Space Student Study	
<b>FACULTY OFFICES &amp; ADMINISTRATION</b>	<b>4,856</b>
Departmental Office / Shared Support (19) Faculty Offices	
<b>GENERAL PURPOSE CLASSROOMS</b>	<b>2,800</b>
(2) @ 40-seat Classrooms	
<b>TEACHING / RESEARCH LABS &amp; SUPPORT</b>	<b>22,873</b>
AI & Virtual Reality Lab (20-students) Composite Structures Center of Excellence Teaching Lab (20-students) & Research Computer Systems Technology Lab (2 @ 24-students each) Digital Media Technology Lab (20 students) Flex Research Lab Material Engineering Technology Lab (20-students) & Extraction Lab Mechanical Engineering Technology Labs (2 @ 20-students each) Mechanical Engineering Technology Computer Lab (24-seats) Robotics & Automation Lab	
<b>TOTAL NSF</b>	<b>33,509</b>
<i>Building Efficiency Ratio (60%)</i>	
<b>ESTIMATED TOTAL GSF</b>	<b>55,848</b>

New Academic Center Space Program Summary - Phase 2	
<b>PUBLIC SPACE</b>	<b>360</b>
Student Study	
<b>FACULTY OFFICES &amp; ADMINISTRATION</b>	<b>5,603</b>
Shared Support (26) Faculty Offices (12) Future Faculty	
<b>GENERAL PURPOSE CLASSROOMS</b>	<b>10,500</b>
(6) @ 40-seat Classroom (1) @ 60-seat Classroom	
<b>TEACHING / RESEARCH LABS &amp; SUPPORT</b>	<b>9,120</b>
Chemistry Lab (24-students) Electrical Engineering Technology Lab (20-students) Physics Lab (24-students) Unmanned Aircraft Systems (UAS) Lab (20-students)	
<b>TOTAL NSF</b>	<b>25,583</b>
<i>Building Efficiency Ratio (60%)</i>	
<b>ESTIMATED TOTAL GSF</b>	<b>42,638</b>

UAS Applied Aviation Research Institute (AARC) (14,435 NSF) is not included above

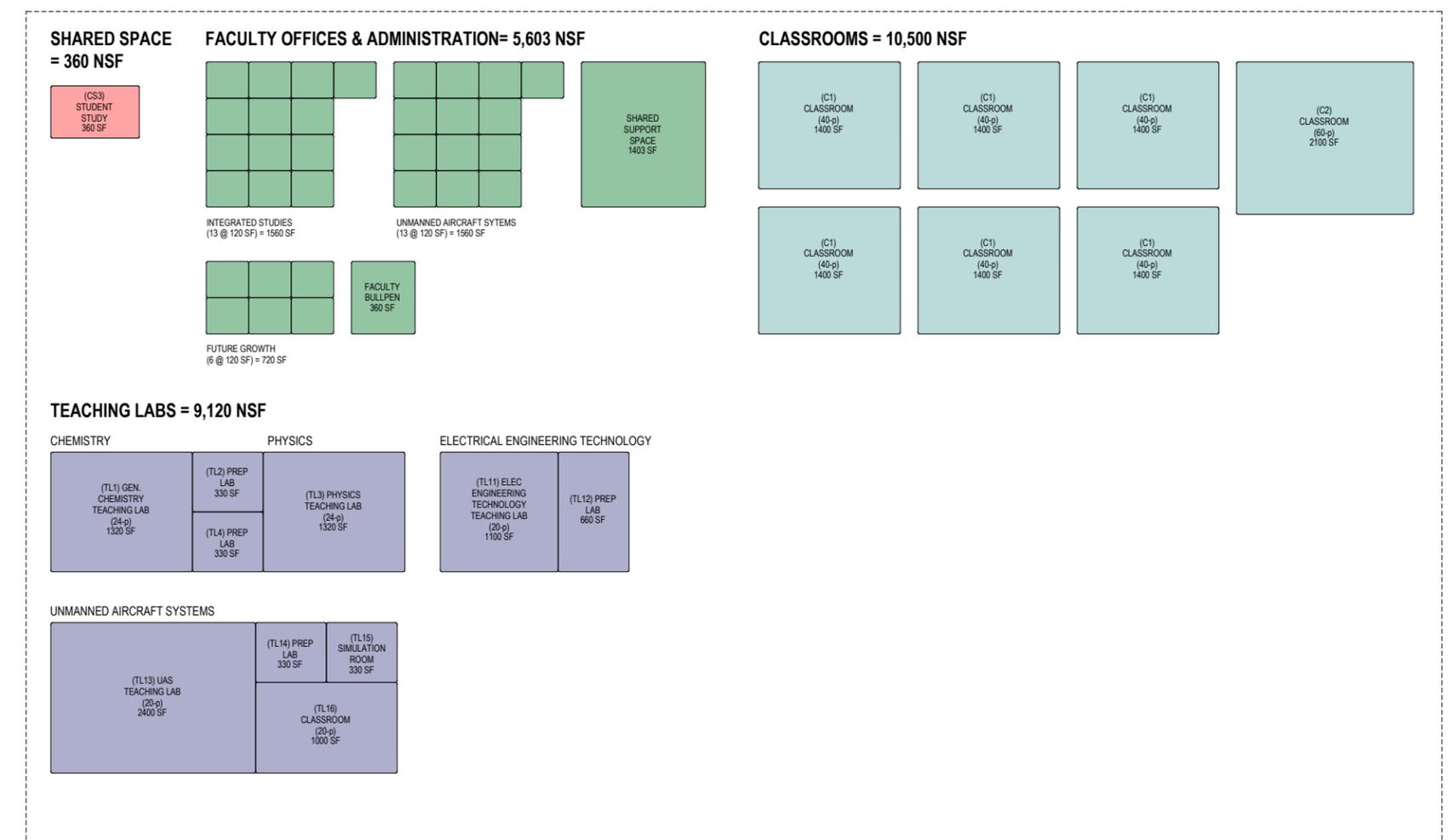
**ACADEMIC CENTER - PHASE 1**

TOTAL NSF: 33,600 NSF  
 TOTAL GSF: 56,000 GSF  
 CONSTRUCTION COST: \$21,000,000  
 TOTAL PROJECT COST: \$28,000,000



**ACADEMIC CENTER - PHASE 2**

TOTAL NSF: 25,600 NSF  
 TOTAL GSF: 43,000 GSF  
 CONSTRUCTION COST: \$15,600,000  
 TOTAL PROJECT COST: \$20,700,000



**AVIATION MAINTENANCE (AVM) PROGRAM (FUTURE RELOCATION)**

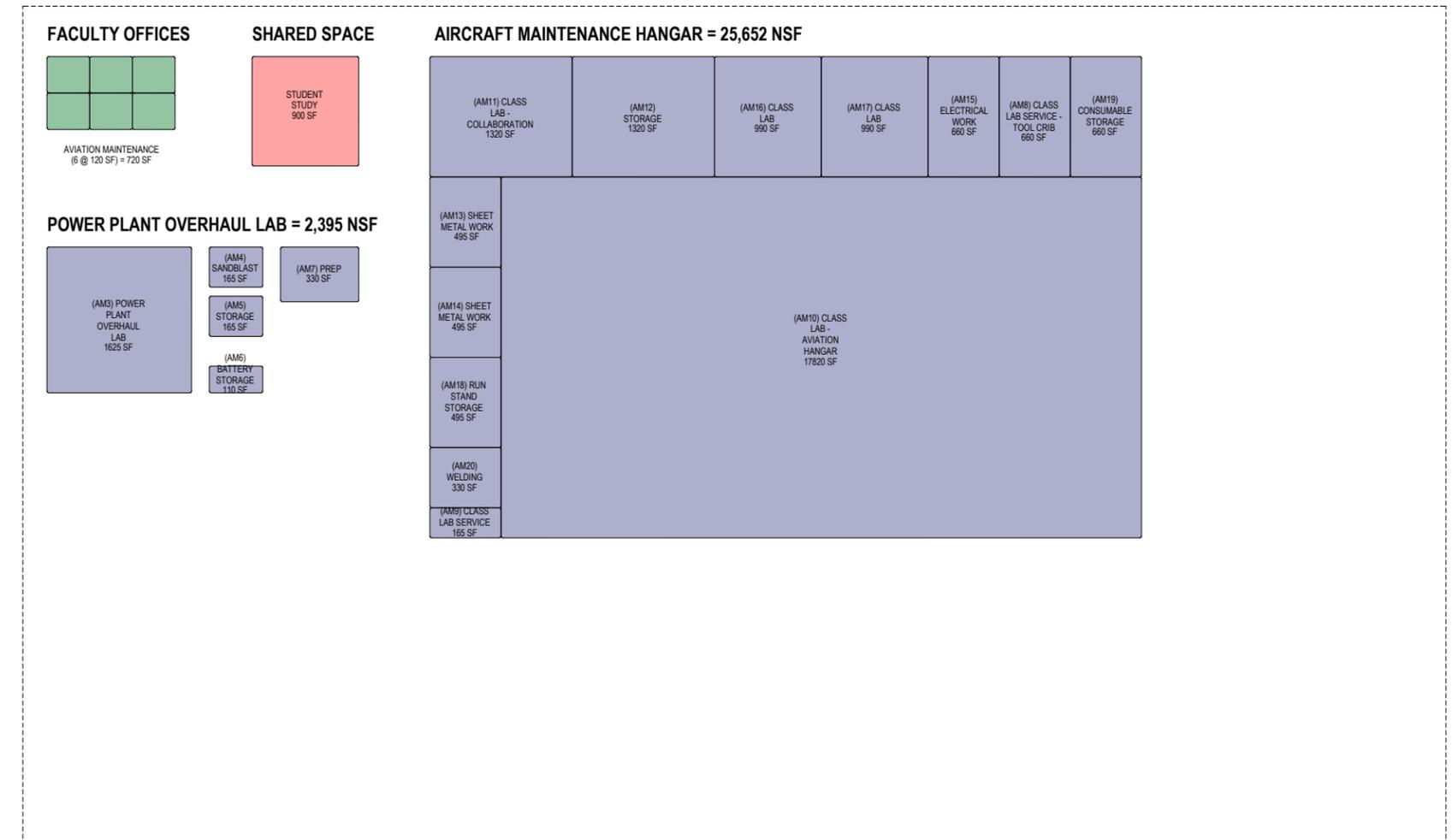
The Aviation Maintenance space program totals ~30,000 NSF / ~37,100 GSF.

Construction of a new AVM Building will accommodate enrollment growth in the AVM program and allow Building #4 to be dedicated to flight program operations. The AVM facility requires direct access to the airport ramp for aircraft movement.

<b>Aviation Maintenance (AVM) Space Program Summary</b>	
<b>FACULTY &amp; PROGRAM OFFICES</b>	<b>720</b>
Faculty Offices Engineering Technician	
<b>POWER PLANT OVERHAUL LAB</b>	<b>2,395</b>
Power Plant Overhaul Teaching Lab (25-students) Class Lab Service Space - Sandblast, Storage, Battery Storage Lab Prep / Storage	
<b>AIRCRAFT MAINTENANCE HANGAR</b>	<b>25,652</b>
Aviation Hangar / Class Lab Collaboration Zone Sheet Metal Work Zone Electrical Work Zone Welding Lab Class Lab Service Tool Crib Training Aids / Landing Gear Storage Run Stands Storage Consumable Storage	
<b>STUDENT STUDY</b>	<b>900</b>
Student Study Space	
<b>TOTAL NSF</b>	<b>29,667</b>
<i>Building Efficiency Ratio (80%)</i>	
<b>ESTIMATED TOTAL GSF</b>	<b>37,084</b>

**AVIATION MAINTENANCE**

TOTAL NSF: 29,667 NSF  
 TOTAL GSF: 37,083 GSF  
 CONSTRUCTION COST: \$12,500,000



### TECHNOLOGY CENTER AND TECHNOLOGY CENTER WEST BACKFILL

Relocation of existing undersized instructional labs, classrooms and offices from Technology Center and Technology Center West to new rightsized spaces in the Academic Center will free up approximately 30,000 NSF of existing space. This space will be repurposed for the relocation of student service and auxiliary services currently located in aging campus buildings which will be demolished.

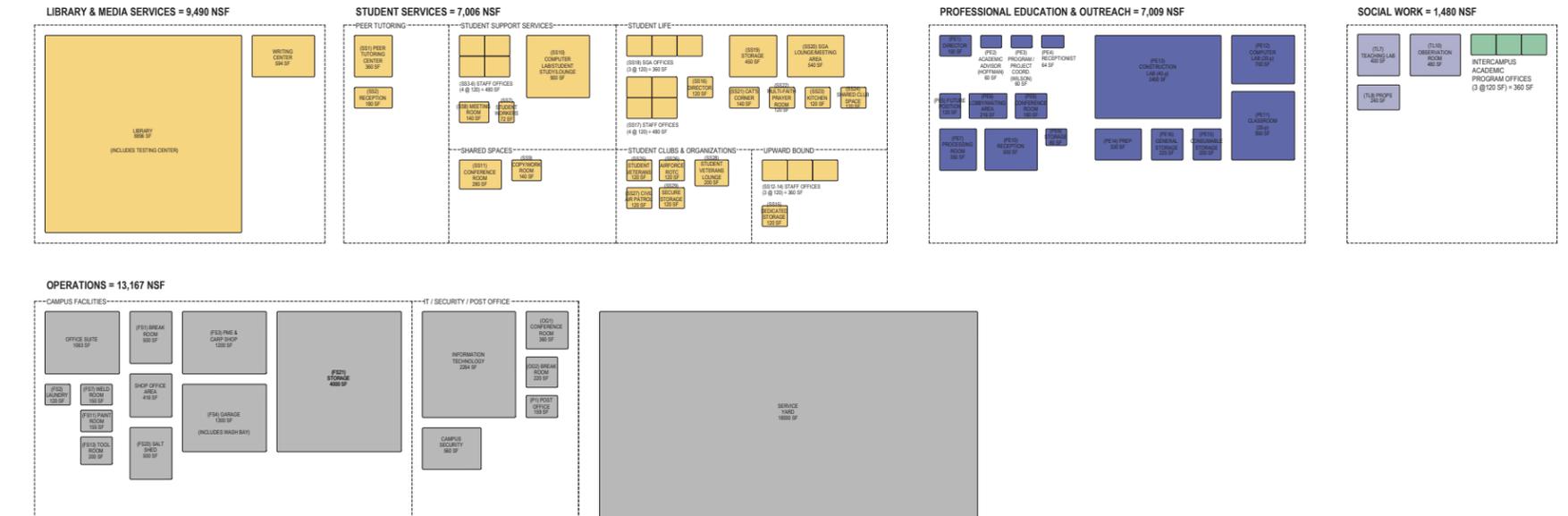
The Technology Center and Technology Center West space program totals 38,152 NSF, which is just under the estimated total net assignable space in the complex (39,144 NSF).

<b>Technology Center / Technology Center West Backfill Space</b>	
<b>Program Summary</b>	
<b>LIBRARY &amp; MEDIA SERVICES</b>	<b>9,490</b>
Library Writing Center	
<b>STUDENT SERVICES</b>	<b>7,006</b>
Peer Tutoring Center Student Support Services Upward Bound Program Student Life Student Clubs & Organizations	
<b>SOCIAL WORK PROGRAM</b>	<b>1,480</b>
Simulation Teaching Lab Staging / Props Room Observation Room	
<b>PROFESSIONAL EDUCATION &amp; OUTREACH</b>	<b>7,009</b>
Staff Offices Training Reception Classroom (30-seat) Computer Lab (20-seat) Construction Lab (40-person) & Support	
<b>AUXILIARY SERVICES - OPERATIONS</b>	<b>13,167</b>
Campus Facilities Shops Campus Facilities Consolidated Storage Campus Facilities Office Campus Security Campus Post Office Campus Information Technology Operations Group Shared Space	
<b>TOTAL NSF</b>	<b>38,152</b>

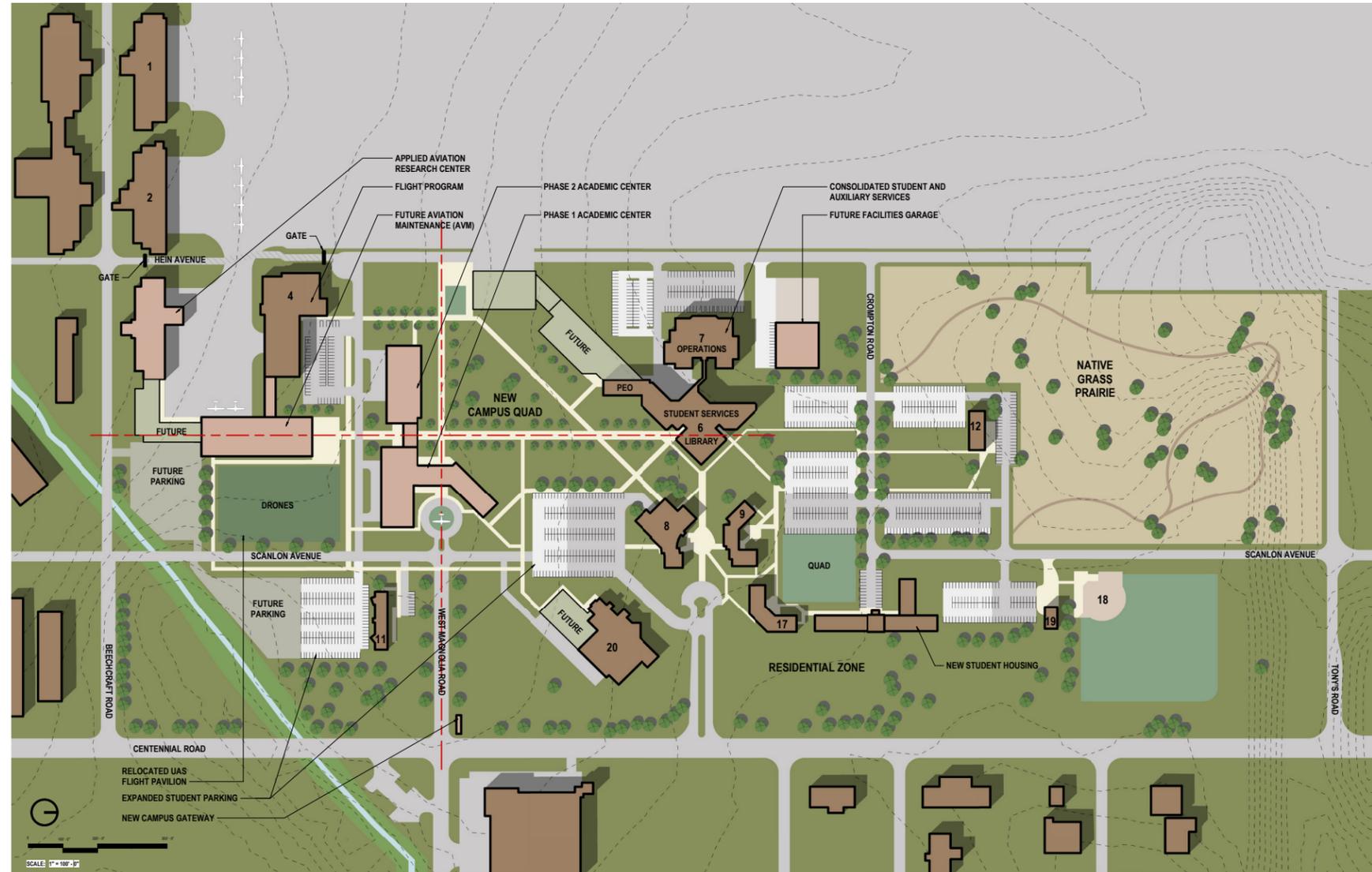
<b>TECHNOLOGY CENTER COMPLEX - EST. NSF AVAILABLE</b>	<b>43,469</b>
<i>Building Efficiency Ratio (65% assumed)</i>	
<b>TECHNOLOGY CENTER COMPLEX - TOTAL GSF</b>	<b>66,876</b>

### TECHNOLOGY CENTER "BACKFILL"

TOTAL: 38,152 NSF



## NEW ACADEMIC CENTER CONCEPT



K-STATE AEROSPACE AND TECHNOLOGY CAMPUS LOCATION MAP CONCEPT PLAN

### CAMPUS SITE CONCEPT PLAN

Placement of the new Academic Center necessitated taking a holistic look at the campus organization. Primary campus planning goals include the integration of proposed buildings with existing structures, and the development of a walkable, pedestrian oriented campus through building placement, green space, hardscape, and parking strategies.

Proposed academic facilities are organized along a pedestrian spine that links three thematic zones: Aviation / UAS programs, new Academic Center, and Technology Center and Technology Center West complex (Student Services, Campus Operations, etc.)

Site planning drivers include:

- Improved campus arrival experience through new campus gateway and new Academic Center with welcoming presence at the termination of Magnolia Road
- Identifiable and pedestrian oriented core at the heart of campus
- New parking lots positioned to minimize private vehicle circulation through the campus and allow phased expansion as student enrollment grows
- UAS Flight Pavilion and future AVM facility have highly visible locations
- AVM facility and future UAS AARC facility (potential for Hangar 724) utilize existing airport ramp access points
- Pedestrian linkages supported by maintained green space

*Continued on following page*

### K-STATE SALINA CAMPUS BUILDINGS

- 1 Aeronautical West Hangar
- 2 Aeronautical East Hangar
- 3 Composite Building (demolished)
- 4 Aviation Center / Stevens Flight Center
- 5 UAS Laboratory (demolished)
- 6 Technology Center
- 7 Technology Center West
- 8 College Center
- 9 Schilling Hall
- 10 Tullis Building (demolished)
- 11 Kuhlman Center (Welcome Center)
- 12 Outreach Center
- 13 Extension Center (demolished)
- 14 Construction Lab (demolished)
- 15 Facilities Maintenance - Shops (demolished)
- 16 Facilities Maintenance - Offices (demolished)
- 17 Harbin Hall
- 18 Thaumert Park / Sports Field
- 19 Sports Support Facility
- 20 Student Life Center
- 21 UAS Flight Pavilion (relocated)

- Outer edges of campus (site area adjacent to buildings scheduled for demolition) to be returned to less maintenance intensive more natural prairie / grassland condition
- Building height limited to two-story based on Salina Regional Airport regulations
- Logical phased implementation

## ACADEMIC CENTER CONCEPT

The proposed Academic Center will provide a next generation experiential learning environment for integrated studies in aviation and integrated systems engineering and technology to support aviation industry workforce development.

Programs that are currently physically isolated, undersized, or operating in unsatisfactory buildings will be collocated in an interdisciplinary teaching and research environment that will facilitate K-State Salina’s ability to diversify and adapt curriculum to support current and future needs.

The new Academic Center is conceptualized to:

- Collocate instructional labs focused on themes, not disciplines to further the multi-disciplinary nature of aviation and integrated systems engineering and technology education
- Provide rightsized classrooms that support traditional and active learning pedagogies
- Create a new home for K-State Salina students and encourage collaboration by providing interactive spaces for small group and project team meetings
- Provide a central multipurpose space that supports outreach and interaction with industry partners

- Create a welcoming and transparent environment that puts integrated systems and aviation engineering on display
- Provide students with ease of access to faculty
- Connect interior and exterior spaces to energize site and building

## PHASED IMPLEMENTATION

The new Academic Center is proposed to be implemented in two phases, with the Phase 1 focused on high impact spaces with emphasis on Integrated Studies teaching and research labs and graduate programs space in direct support of aviation industry workforce development. Phase 2 includes additional instructional labs, classrooms, and additional student study, faculty office, and support spaces.

The Phase 1 project is designed to accomplish the goal of creating a new campus entrance experience. The Phase 2 expansion is illustrated as a direct expansion to the west of Phase 1 with a connecting link that serves as a primary building entrance along the north / south pedestrian mall.

## PARKING

Existing campus has 956 parking spaces. The campus concept plan includes 1,400 spaces including “Future” areas.

## BUILDING CONCEPT

The Phase 1 Academic Center is envisioned as an iconic two-story building (56,000 GSF) prominently located at the termination of a new campus entry drive from Magnolia Road. The building’s contemporary architecture and aerodynamic lines reflect the excitement and future of aviation engineering and technology. A vehicular drop-off and entry plaza on the east provide accessible access and ADA parking at the building’s primary entrance.

A second entrance from the west is directly accessible from the new pedestrian mall and provides opportunity for an outdoor patio for student relaxation, study, and special events. The Academic Center’s position at the mid-point of the new pedestrian mall allows the building to serve as a “bridge,” strengthening the connections between the Technology Center, College Center, Student residence halls to the north, and the existing Aviation Center and a proposed future Aviation Maintenance Facility to the south.

The building’s angled geometry responds to the existing campus context, creating a defined campus green space between the new Academic Center and the existing Technology Center to the north with open views to the existing College Center and Student Life Center. The concept includes expansion of the existing parking lot south of the College Center to offset parking spaces lost with the

elimination of the parking lot just west of Scanlan Avenue.

At the heart of the new Academic Center is the “Aviation Innovation Hub,” a light-filled two-story atrium envisioned as the College of Technology and Aviation’s living room and gathering space for informal student interaction and study. This multi-purpose space is sized to support industry partner events and celebrations. A feature stair provides direct connection to teaching and research spaces on the second floor.

The Phase 1 concept’s south wing showcases two floors of Integrated Studies teaching and research labs including Robotics and Automation, Mechanical Engineering Technology, and the Composite Structures Center of Excellence. The flexible innovation zone is configured to support teaching environments that simulate settings that students will encounter in industry. The Integrated Studies wing is oriented east / west for ideal solar orientation and daylighting with direct access to an exterior yard for student project work.

The Phase 1 concept’s north wing showcases the Integrated Studies Departmental Office along with two 40-seat active learning classrooms on the main level and a quieter high-tech zone for Computer Systems Technology teaching labs on the second floor. Faculty offices and student study space are

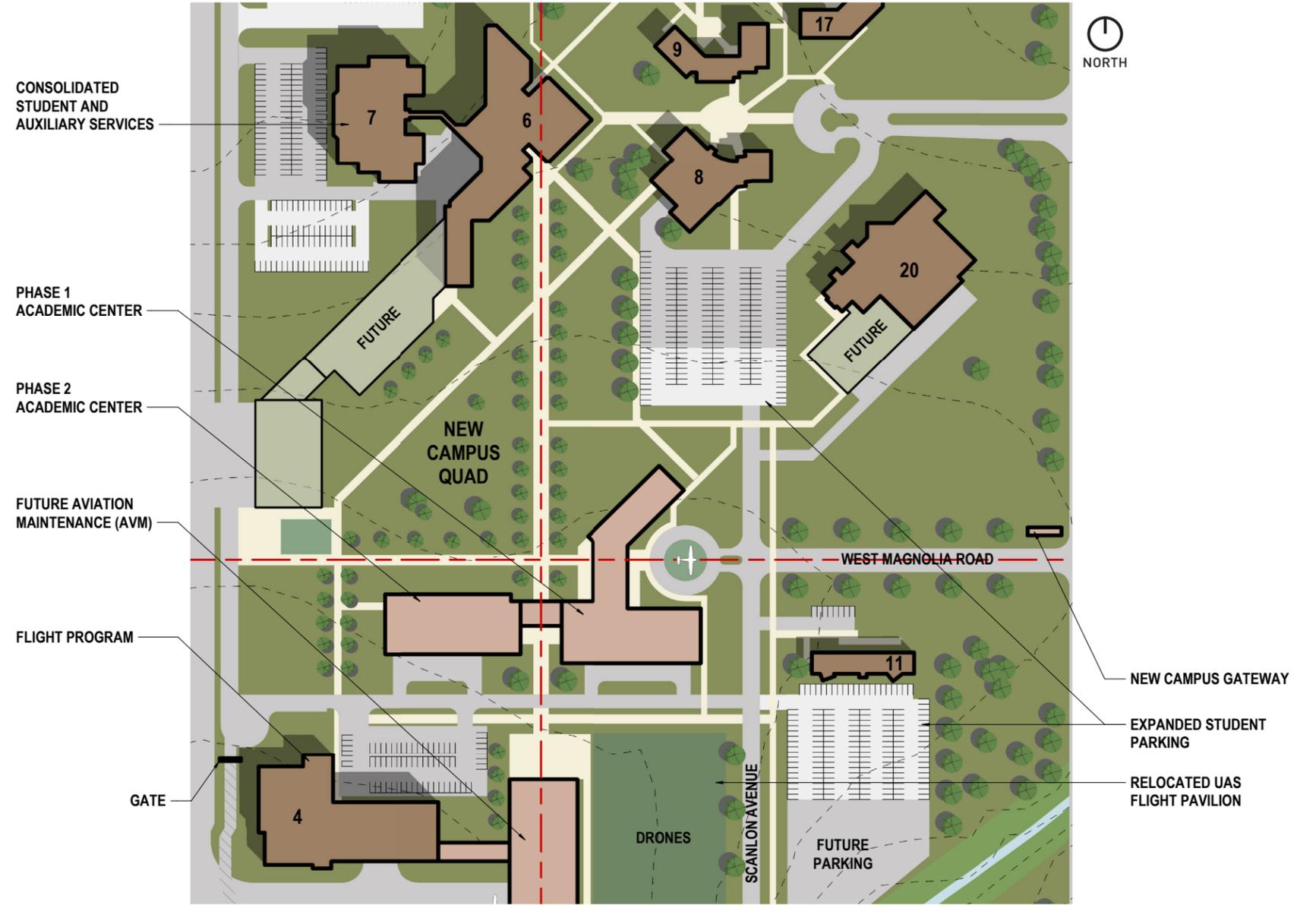
integrated along the west on both levels with views to the new pedestrian mall.

The Phase 1 Academic Center design anticipates a two-level Phase 2 Academic Center expansion (43,000 GSF) with additional instructional teaching labs, rightsized and technology equipped classrooms, student study space, and faculty offices needed to complete the interdisciplinary vision of the Academic Center concept.

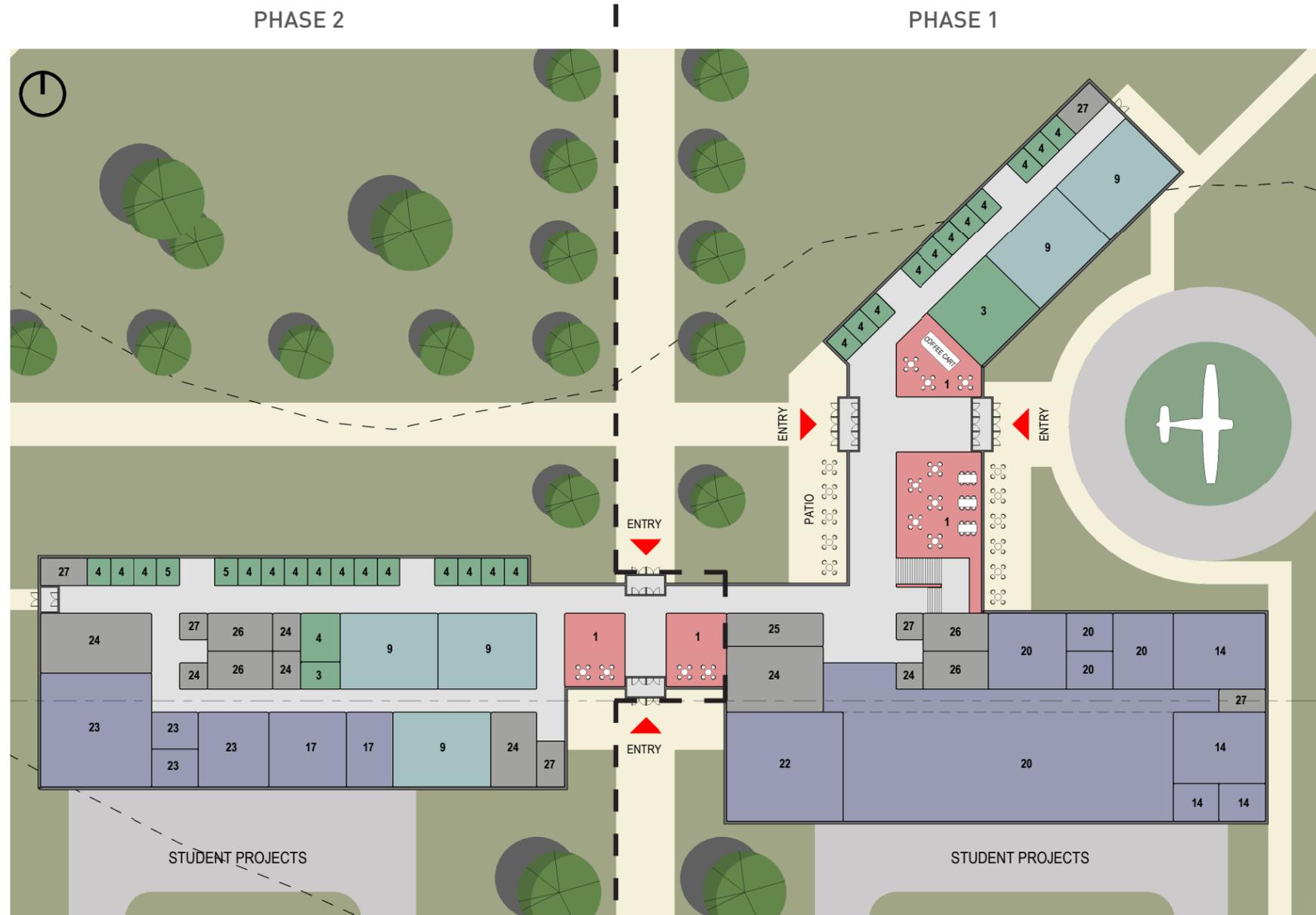
## SUSTAINABLE DESIGN

The Academic Center is proposed to be a LEED Silver equivalent facility and incorporate cost-effective building systems, materials, and strategies for reducing embodied energy and life-cycle energy and water consumption including:

- Passive solar design strategies
- Energy efficiency and heat recovery
- Renewable energy systems
- LED lighting
- Sustainable materials and finishes
- Native landscaping
- Stormwater management
- Water conservation features



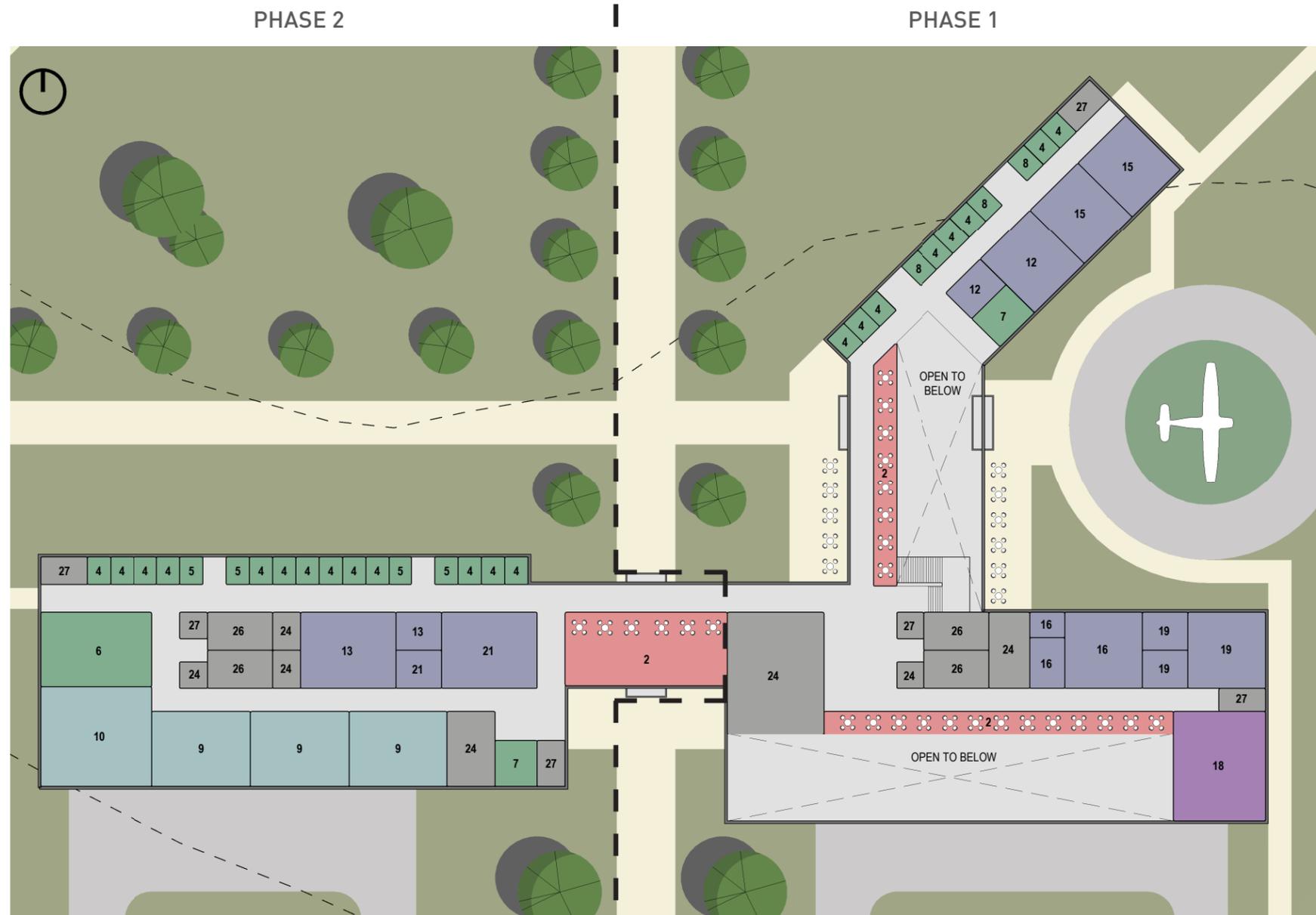
ENLARGED ACADEMIC CENTER CONCEPT SITE PLAN



ACADEMIC CENTER CONCEPT PLAN - LEVEL 1

CONCEPT PLAN LEGEND

- |    |   |    |                                 |
|----|---|----|---------------------------------|
| 1  | Building Lobby / Central Space            | 15 | Computer Systems Technology     |
| 2  | Student Study                             | 16 | Digital Media                   |
| 3  | Departmental Office / Shared Support      | 17 | Electrical Engineering          |
| 4  | Faculty Office                            | 18 | Flex Research Lab               |
| 5  | Future Faculty                            | 19 | Material Engineering Technology |
| 6  | Large Conference Room                     | 20 | Mechanical Engineering          |
| 7  | Small Conference Room                     | 21 | Physics                         |
| 8  | Huddle Room                               | 22 | Robotics & Automation           |
| 9  | 40-seat Classroom                         | 23 | Unmanned Aircraft Systems (UAS) |
| 10 | 60-seat Classroom                         | 24 | Building Support                |
| 11 | 25-seat Classroom                         | 25 | Event Support Space             |
| 12 | AI & Virtual Reality                      | 26 | Restrooms                       |
| 13 | Chemistry                                 | 27 | Vertical Circulation            |
| 14 | Composite Structures Center of Excellence |    |                                 |



ACADEMIC CENTER CONCEPT PLAN - LEVEL 2

CONCEPT PLAN LEGEND

- |    |   |    |                                 |
|----|---|----|---------------------------------|
| 1  | Building Lobby / Central Space            | 15 | Computer Systems Technology     |
| 2  | Student Study                             | 16 | Digital Media                   |
| 3  | Departmental Office / Shared Support      | 17 | Electrical Engineering          |
| 4  | Faculty Office                            | 18 | Flex Research Lab               |
| 5  | Future Faculty                            | 19 | Material Engineering Technology |
| 6  | Large Conference Room                     | 20 | Mechanical Engineering          |
| 7  | Small Conference Room                     | 21 | Physics                         |
| 8  | Huddle Room                               | 22 | Robotics & Automation           |
| 9  | 40-seat Classroom                         | 23 | Unmanned Aircraft Systems (UAS) |
| 10 | 60-seat Classroom                         | 24 | Building Support                |
| 11 | 25-seat Classroom                         | 25 | Event Support Space             |
| 12 | AI & Virtual Reality                      | 26 | Restrooms                       |
| 13 | Chemistry                                 | 27 | Vertical Circulation            |
| 14 | Composite Structures Center of Excellence |    |                                 |

- Consolidated Student and Auxiliary Services
- Phase 1 Academic Center
- Phase 2 Academic Center
- Future Aviation Maintenance (AVM)



ACADEMIC CENTER CONCEPT - AERIAL VIEW LOOKING NORTHWEST

SECTION 5 ▶ NEW ACADEMIC CENTER CONCEPT

- Consolidated Student and Auxiliary Services
- Phase 2 Academic Center
- Phase 1 Academic Center
- Future Aviation Maintenance (AVM)



ACADEMIC CENTER CONCEPT - AERIAL VIEW LOOKING SOUTHWEST



ACADEMIC CENTER CONCEPT - AERIAL VIEW LOOKING SOUTHEAST



ACADEMIC CENTER CONCEPT - VIEW OF MAIN ENTRANCE FROM MAGNOLIA ROAD



ACADEMIC CENTER CONCEPT - WEST ENTRANCE



ACADEMIC CENTER CONCEPT - VIEW OF NORTH ENTRY FROM PEDESTRIAN MALL

SECTION 5 ▶ NEW ACADEMIC CENTER CONCEPT



ACADEMIC CENTER CONCEPT - MAIN ENTRANCE LOBBY FROM SECOND LEVEL



ACADEMIC CENTER CONCEPT - ROBOTICS & AUTOMATION LAB

## BUILDING CONSOLIDATION AND BACKFILL STRATEGY

### SUMMARY

The following table summarizes the 245,330 GSF of existing academic and support buildings on K-State Salina's campus, and the reduction in GSF of aged building stock after the construction of Phase 1 and 2 of the new Academic Center:

After Phase 1 - 23,197 GSF reduction

After Phase 2 - 49,492 GSF reduction (cumulative)

The calculations are based on implementing the following strategies:

- Backfill of Technology Center and Technology West for Campus Operations, Professional Education and Outreach, Student Services, and the Social Work program
- Conversion of the Outreach Center to leasable space for Central Kansas Extension
- Decommissioning / demolition of (7) aged structures

### TECHNOLOGY CENTER COMPLEX BACKFILL

The backfill concept for the Technology Center and Technology Center West buildings is shown in the following pages. In summary:

- Technology Center is dedicated to Academic functions (Social Work), Professional Education and Outreach (PEO), the Library (existing), and Student Services
- Technology Center West is dedicated to the Campus Operations team, which includes Campus Facilities, Campus IT, and Campus Security groups

Backfill plan considerations include:

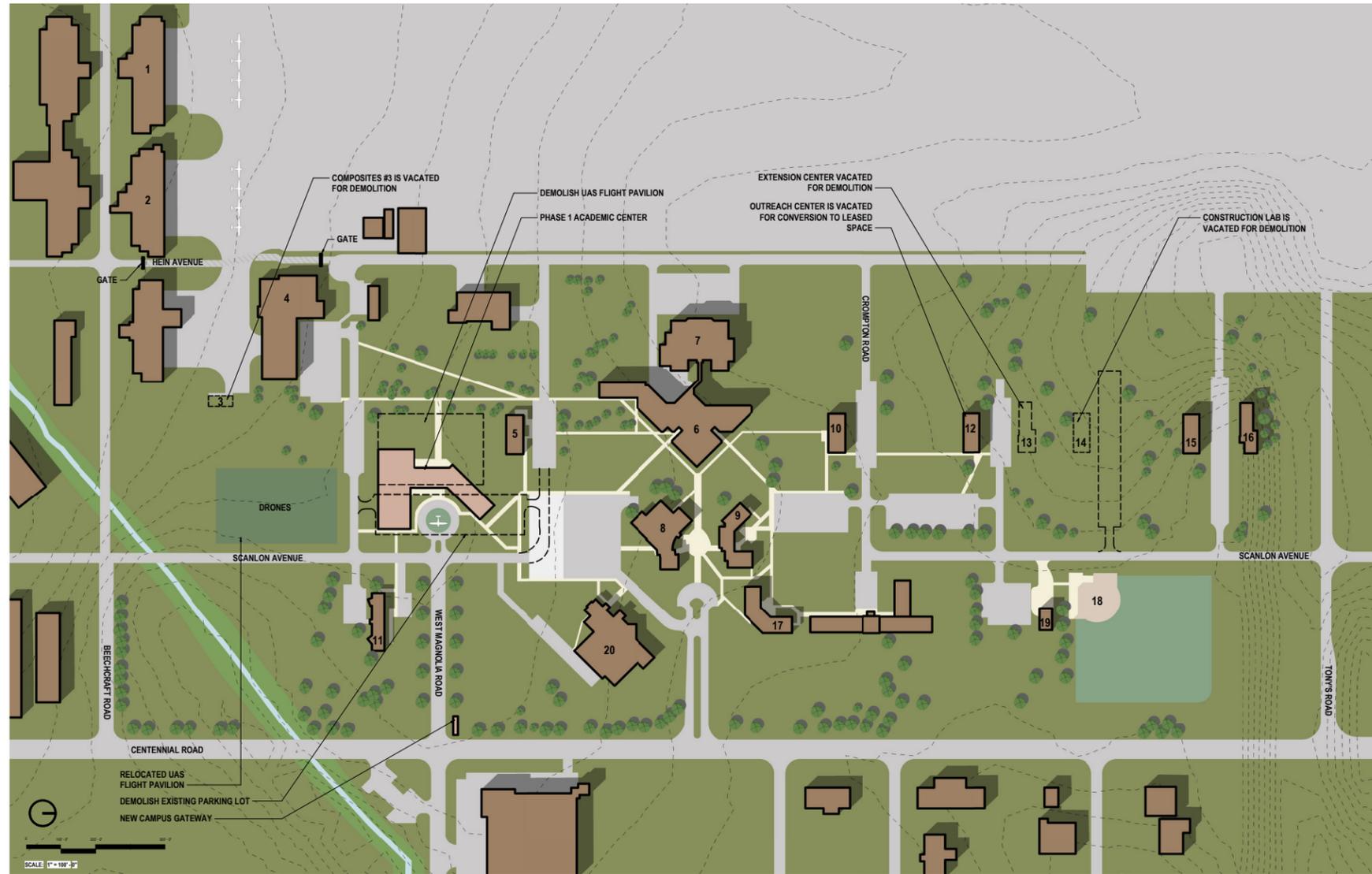
- PEO is located to facilitate community access and parking
- Social Work program is proximate to PEO based on working relationship

Academic & Support Facilities			Existing Building GSF			Future / Proposed Building GSF - Following Construction of New Academic Center (Phase 1 and Phase 2)			
Campus Plan #	Univ. Bldg. #	Building Name	On-Campus GSF	Leased Space GSF	Total GSF	Campus GSF after Phase 1	Space Following Phase 1	Campus GSF after Phase 2	Space Following Phase 2
1	703	Aeronautical West Hangar	29,952			29,952		29,952	
2	704	Aeronautical East Hangar	28,247			28,247		28,247	
3	705	Composites Building	2,100			0		0	
4	706	Aviation Center/Stevens Flight Center	39,071			39,071		39,071	
5	708	U.A.S Laboratory	5,537			5,537		0	
6	709	Technology Center	66,876			66,876		66,876	
7	709	Technology Center West							
8	710	College Center	25,162			25,162		25,162	
10	712	Tullis Building	5,774			5,774		0	
11	713	Kuhlman Center (Welcome Center)	6,530			6,530		6,530	
12	714	Outreach Center	5,687			0		0	
13	715	Extension Center (Sci. Center)	9,873			0		0	
14	716	Construction Lab	5,537			0		0	
15	717	Facilities Maintenance - Shops	5,537			5,537		0	
16	718	Facilities Maintenance - Offices	9,447			9,447		0	
	820	SCE 101 - Off Neeley Road		2,296			2,296		2,296
	600	Airport Authority Owned Hangar		10,053			10,053		10,053
	724	Airport Authority Owned Hangar		0					
<b>Total (GSF)</b>			<b>245,330</b>	12,349	257,679	<b>222,133</b>		<b>195,838</b>	
<b>Buildings Taken Off-line (GSF)</b>							<b>23,197</b>		<b>49,492</b> <i>Cumulative</i>
<b>New Academic Center (NEW GSF)</b>							<b>56,055</b>		<b>98,693</b> <i>Cumulative</i>
<b>Total On-Campus GSF</b>							<b>278,188</b>		<b>294,531</b> <i>Cumulative</i>
<b>Net Additional On-Campus GSF</b>							<b>32,858</b>		<b>49,201</b> <i>Cumulative</i>

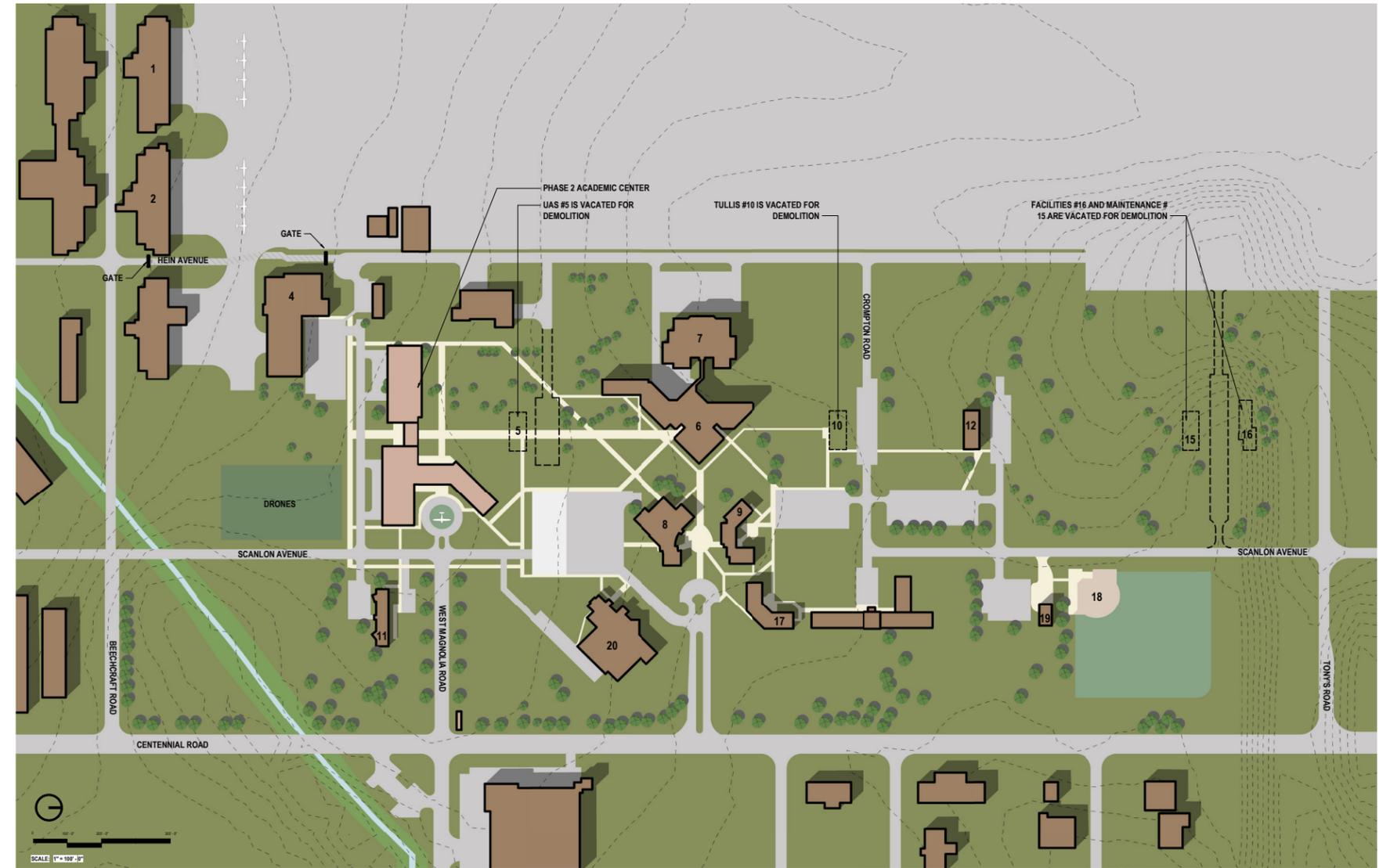
Notes:

- 1 Assumes implementation of the Tech Complex Backfill Strategy is completed
- 2 Assumes conversion of Outreach Center to leasable space is completed
- 3 Current leased space is not considered / included in calculations
- 4 UAS Flight Pavilion is not included and assumed to be replaced at its current GSF

- Although the Campus Facilities program is accommodated in Technology Center West, a freestanding garage facility is illustrated on the site plan for Campus Facilities' fleet vehicles and equipment storage



K-STATE AEROSPACE AND TECHNOLOGY PHASE 1 CONCEPT PLAN



K-STATE AEROSPACE AND TECHNOLOGY CAMPUS PHASE 2 CONCEPT PLAN

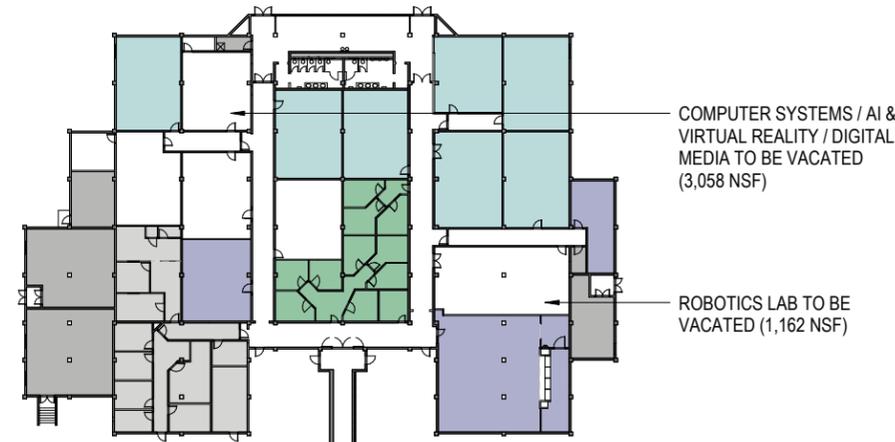
**PHASE 1A**

**VACATE SPACES FOR ACADEMIC CENTER:**

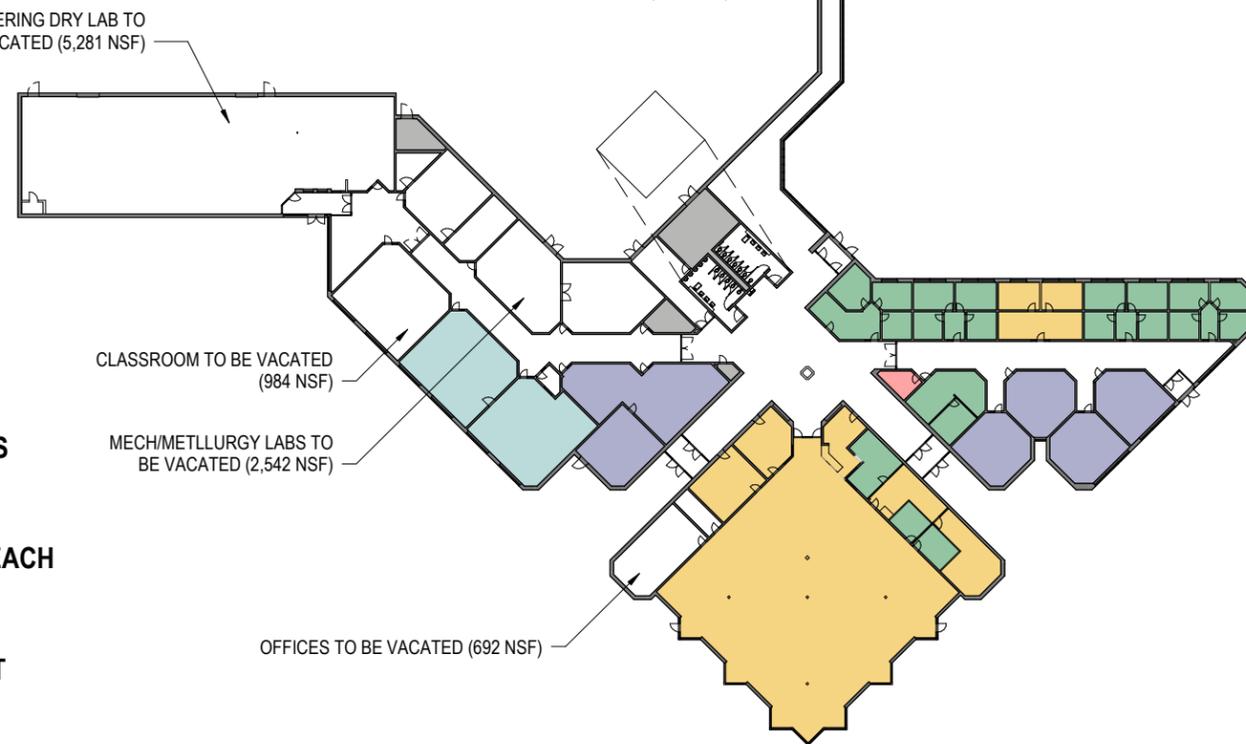
- ROBOTICS LABS (1,162 NSF)
- MECH/METALLURGY LABS (7,823 NSF)
- COMPUTER SYSTEMS / AI & VR / DIGITAL MEDIA (3,058 NSF)
- CLASSROOM (984 NSF)
- OFFICES (692 NSF)

**TOTAL SPACE AVAILABE FOR BACKFILL:**

TECH WEST: 4,220 NSF  
TECH CENTER: 9,499 NSF



- CLASSROOM
- FACULTY OFFICE
- STUDENT SERVICES
- TEACHING LAB
- PROF. ED. & OUTREACH
- OPERATIONS
- BUILDING SUPPORT



**PHASE 1B**

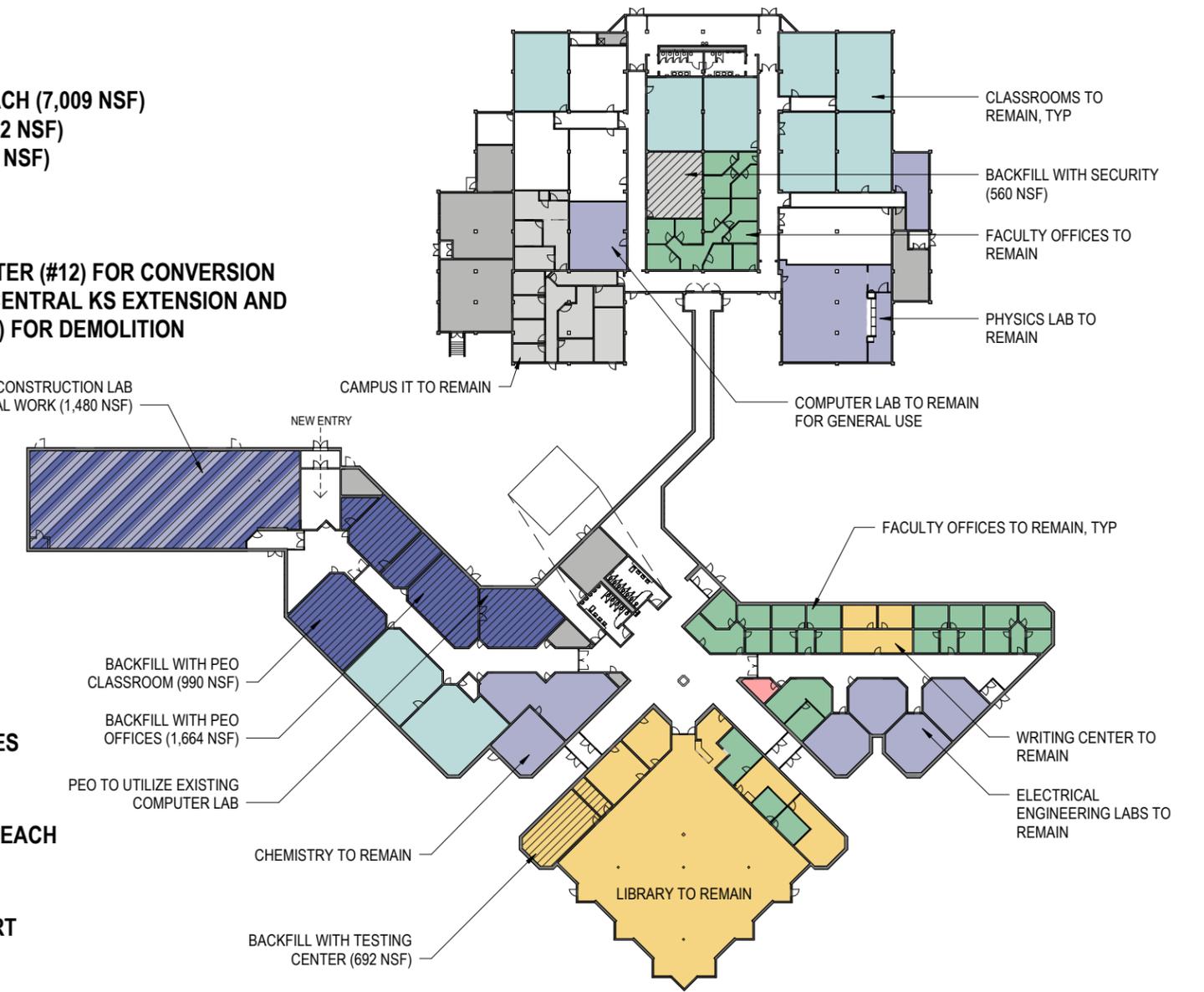
**BACKFILL CANDIDATES:**

- PROF. ED. & OUTREACH (7,009 NSF)
  - TESTING CENTER (692 NSF)
  - SOCIAL WORK (1,480 NSF)
  - SECURITY (560 NSF)
- TOTAL: 9,741 NSF**

**VACATE OUTREACH CENTER (#12) FOR CONVERSION TO LEASED SPACE FOR CENTRAL KS EXTENSION AND CONSTRUCTION LAB (#14) FOR DEMOLITION**

BACKFILL WITH PEO CONSTRUCTION LAB (3,115 NSF) & SOCIAL WORK (1,480 NSF)

- CLASSROOM
- FACULTY OFFICE
- STUDENT SERVICES
- TEACHING LAB
- PROF. ED. & OUTREACH
- OPERATIONS
- BUILDING SUPPORT



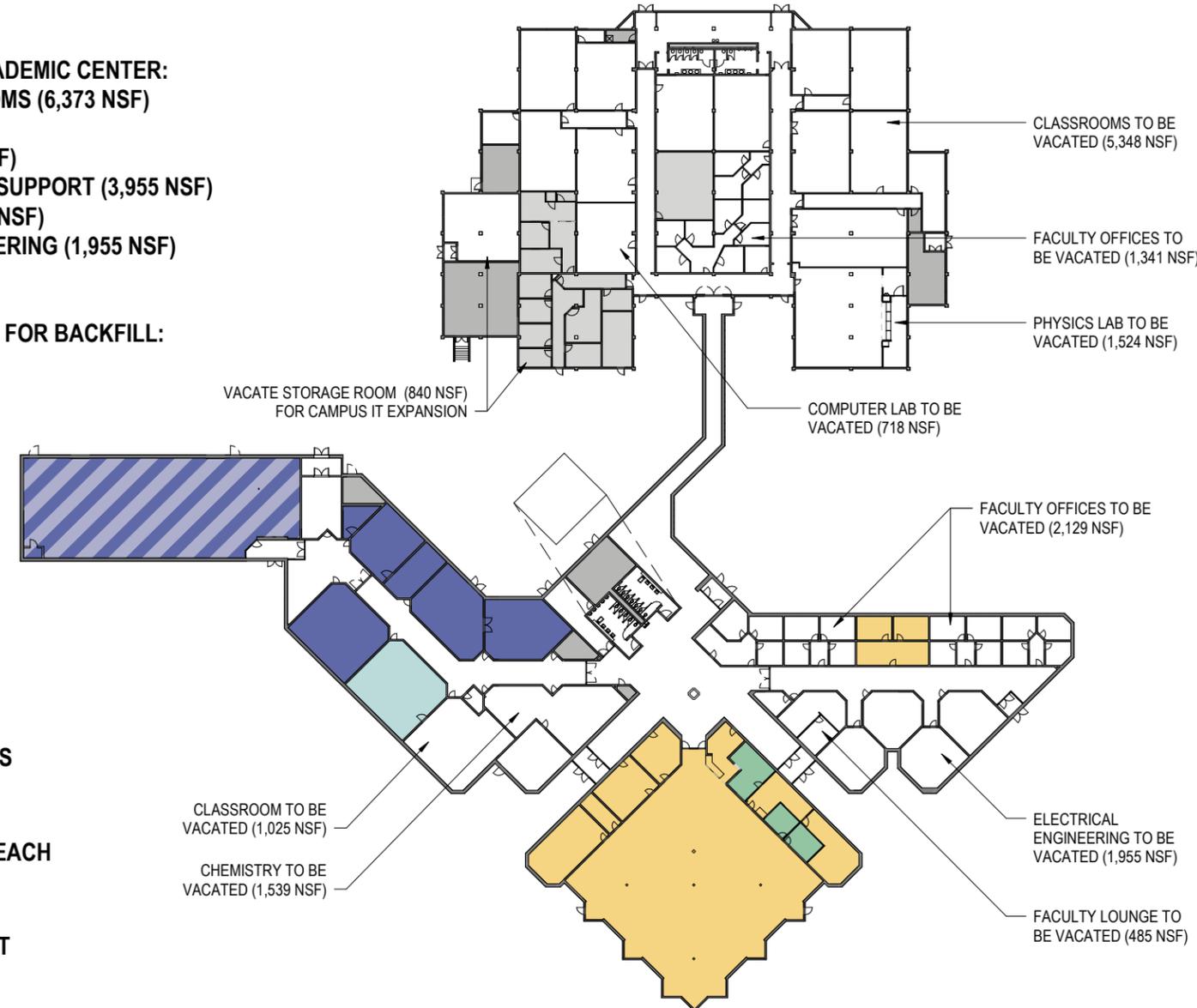
**PHASE 2A**

**VACATE SPACES FOR ACADEMIC CENTER:**

- GENERAL CLASSROOMS (6,373 NSF)
- PHYSICS (1,524 NSF)
- CHEMISTRY (1,539 NSF)
- FACULTY OFFICES & SUPPORT (3,955 NSF)
- COMPUTER LAB (718 NSF)
- ELECTRICAL ENGINEERING (1,955 NSF)
- STORAGE (840 NSF)

**TOTAL SPACE AVAILABLE FOR BACKFILL:**

**TECH WEST: 13,312 NSF**  
**TECH CENTER: 7,133 NSF**

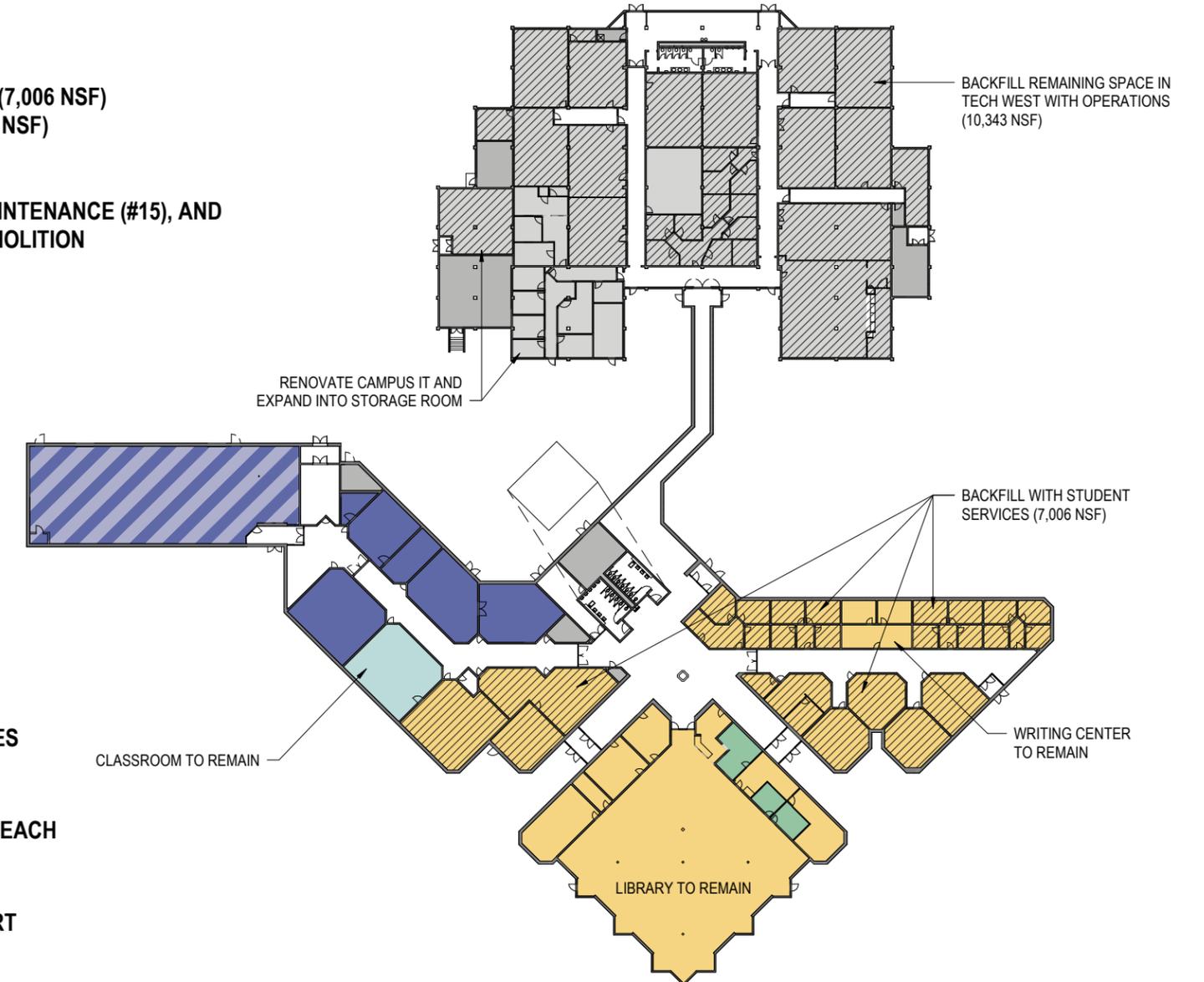


**PHASE 2B**

**BACKFILL CANDIDATES:**

- STUDENT SERVICES (7,006 NSF)
  - OPERATIONS (10,343 NSF)
- TOTAL: 17,349 NSF**

**VACATE TULLIS (#10), MAINTENANCE (#15), AND FACILITIES (#16) FOR DEMOLITION**



## COST ESTIMATES

The following high-level conceptual estimates are based on historic cost data for projects of similar construction type, scale, and complexity. The study developed benchmark cost data for multiple projects (see Appendix), and based on this information, a construction cost target of \$358/GSF was established for building and sitework costs.

Estimated costs have been adjusted for inflation and escalated to a mid-point of construction in July 2024. Estimated costs should be escalated for completion time frames beyond July 2024. The following elements are included in estimated construction costs:

- General conditions
- Direct construction costs (labor and material)
- General sitework including allowances for site clearing and prep, earthwork, site utility extensions including sanitary sewer, water, gas, and electrical power, on-site storm water management and site lighting
- General contractor fees
- Design and estimating contingency

Estimated Total Project costs take the estimated construction cost for each phase and apply a percentage (30%) of the Construction Cost as an Owner's Soft Costs allowance. This Soft Costs allowance includes:

- OFPM and K-State Facilities fees
- Design architectural and engineering fees/ commissioning fees
- Site survey / geotechnical investigation services
- KSU Facilities managed in-house construction
- Fixtures, furniture and equipment
- Audio visual equipment and systems
- IT cable and hardware
- Door locks and key card installations / Security systems and devices
- Landscaping
- Owner's construction and project contingency

## PHASE 1 | ACADEMIC CENTER

- Site Preparation – Includes site clearing, UAS Flight Pavilion demolition and relocation / reconstruction, and existing Scanlon Ave. parking lot demolition
- New Construction – Phase 1 Academic Center, expansion of College Center parking lot, and New Campus Gateway including Magnolia Road Extension and new campus entrance monument sign
- Building Backfill – Includes selective Student Services & Auxiliary Campus Services renovations in Technology Center and Technology Center West following completion of the Phase 1 Academic Center

## PHASE 2 | ACADEMIC CENTER

- Site Preparation – Includes site clearing and demolition of U.A.S Laboratory Building #5
- New Construction – Phase 2 Academic Center expansion
- Building Backfill – Includes selective Student Services & Auxiliary Campus Services renovations in Technology Center and Technology Center West following completion of the Phase 2 Academic Center expansion

## TECHNOLOGY CENTER AND TECHNOLOGY CENTER WEST BACKFILL PROJECTS

K-State Salina envisions funding Student Services and Auxiliary Campus Services renovation backfill projects in part with savings from the reduction in deferred maintenance associated with the existing buildings slated for demolition. In general, construction costs for interior renovation for student services, administrative office and

conferencing type spaces falls in a range of \$150 to \$225 /SF depending on the level of mechanical and electrical systems work involved.

## EXISTING BUILDING DEMOLITION

In general, building demolition costs range from \$8-\$10 GSF with additional costs incurred for roadway and parking lot removal, site utility terminations, and restorative seeding/landscaping. The scope of the study did not include the identification of hazardous material or environmental conditions requiring abatement or the costs associated with building / site remediation.

## ADDITIONAL PHASES

Additional Phase estimates include:

- Relocation and expansion of the AVM program’s teaching laboratory and aircraft hangar facilities currently located in Building #4 to support dedication of the Building #4 Aviation Center to the Flight Program and anticipated enrollment growth in the AVM program.
- Construction of an enclosed and heated Vehicle & Equipment Storage Building in association with relocation of Campus Facilities Operations out of Buildings #15 & #16 (which are scheduled for demolition) to Technology Center West.

Phase 1	NSF	GSF	\$/GSF	Construction Cost	Total Project Cost
<b>Site Preparation</b>					
UAS Flight Pavilion Demo & Relocation		60,000	3	\$180,000	\$234,000
Existing Parking Lot Demolition		51,145	2	\$102,290	\$132,977
<b>New Construction</b>					
Phase 1 Academic Center (Building and Sitework)	33,600	56,000	375	\$21,000,000	\$27,300,000
College Center Parking Lot Expansion (200 spaces)		24,200	38	\$919,600	\$1,195,480
New Campus Gateway-Magnolia Rd. Exten. & Monument Sign		38,100	20	\$762,000	\$990,600
<b>Total Estimated Phase 1</b>				<b>\$22,963,890</b>	<b>\$29,853,057</b>
<b>Building Backfill - Following Phase 1 Academic Center</b>					
<b>Renovation</b>					
Technology Center	9,181	14,125	225	\$3,178,038	\$4,131,450
Technology Center West	560	862	225	\$193,846	\$252,000
<b>Total Estimated Backfill Renovations</b>				<b>\$3,371,885</b>	<b>\$4,383,450</b>

Phase 2	NSF	GSF	\$/GSF	Construction Cost	Total Project Cost
<b>Site Preparation</b>					
Site Clearing and Prep (Allowance)				\$100,000	\$130,000
Demolition of Building #5 - U.A.S. Laboratory		5,537	12	\$66,444	\$86,377
<b>New Construction</b>					
Phase 2 Academic Center (Building & Sitework)	25,600	42,000	364	\$15,288,000	\$19,874,400
<b>Total Estimated Phase 2</b>				<b>\$15,454,444</b>	<b>\$20,090,777</b>
<b>Building Backfill - Following Phase 2 Academic Center</b>					
<b>Renovation</b>					
Technology Center	7,006	10,778	225	\$2,425,154	\$3,152,700
Technology Center West	10,343	15,912	225	\$3,580,269	\$4,654,350
<b>Total Estimated Backfill Renovations</b>				<b>\$6,005,423</b>	<b>\$7,807,050</b>

Additional Phases	NSF	GSF	\$/GSF	Construction Cost	Total Project Cost
<b>New Aviation Maintenance (AVM) Facility</b>					
Site Clearing and Prep (Allowance)				\$100,000	\$130,000
New Aviation Maintenance Facility (Building & Sitework)	29,667	37,084	358	\$13,275,983	\$17,258,777
<b>New Facilities -Vehicle &amp; Equipment Storage Building</b>	2,000	2,500	250	\$625,000	\$812,500
<b>Total Additional Phases</b>				<b>\$14,000,983</b>	<b>\$18,201,277</b>

Existing Building Demolition	NSF	GSF	\$/GSF	Construction Cost	Total Project Cost
<b>Demolition, Utility Disconnects and Site Clearing</b>					
Building #3 - Composites Building		2,100	12	\$25,200	\$32,760
Building #5 - See Phase 2 above					
Building #10 - Tullis Building		5,774	12	\$69,288	\$90,074
Building #13 - Extension Center (Science Center)		9,873	12	\$118,476	\$154,019
Building #14 - Construction Lab		5,537	12	\$66,444	\$86,377
Building #15 - Facilities Maintenance - Shops		5,537	12	\$66,444	\$86,377
Building #16 - Facilities Maintenance - Offices		9,447	12	\$113,364	\$147,373
<b>Total Estimated Building Demolition</b>		38,268		<b>\$459,216</b>	<b>\$596,981</b>

## APPENDIX

1▶ DETAILED SPACE PROGRAM

62

2▶ GENERAL PURPOSE CLASSROOM SUMMARY

69

3▶ BENCHMARK COST DATA

71

4▶ EXISTING PARKING COUNT

73

5▶ EXISTING BUILDING PLANS / SPACE USE

75







Existing General Purpose Classrooms									Proposed General Purpose Classrooms						Notes	
No. of Classrooms	Building #	Building Name	Room #	Room NSF (KBOR 2020 Report)	Average NSF/Seat (KBOR 2020 Report)	Max Capacity (KBOR 2020 Report)	NSF/Seat (KSU Classroom Standards)	Max Capacity (KSU Classroom Standards)	No. of Classrooms	Building #	Building Name	Room #	NSF	NSF/Seat		Max Capacity (Active Learning)
1	3	Composites	106	487	20.3	24	33	15					0			Not included in KBOR Study
	4	Aviation Center	138										0			
2	4	Aviation Center	139	347	22.3	16	30	12					0			
3	4	Aviation Center	140	743	22.3	33	30	25					0			
4	4	Aviation Center	141	730	22.3	33	30	24					0			
5	4	Aviation Center	142	738	22.3	33	30	25	0	4	Aviation Center	142	738	30	0	Dedicated to AVM
	5	UAS Lab	105A										0			Not included in KBOR Study
6	6	Tech Center	118	1,025	22.3	46	30	34					0			
7	6	Tech Center	119	994	22.3	45	30	33	1	6	Tech Center	119	994	30	33	Maintain in Tech Center
8	6	Tech Center	120	984	22.3	44	30	33	2	6	Tech Center	120	984	30	33	Maintain in Tech Center
9	7	Tech West	144	811	22.3	36	30	27					0			
10	7	Tech West	151	734	22.3	33	30	24					0			
11	7	Tech West	152	827	22.3	37	27	31					0			
12	7	Tech West	153	653	22.3	29	30	22					0			
13	7	Tech West	154	792	22.3	36	30	26					0			
14	7	Tech West	166	679	22.3	30	30	23					0			
15	7	Tech West	169	778	22.3	35	30	26					0			
16	7	Tech West	172	754	22.3	34	30	25					0			
									3		New Academic Center		1,400	35	40	
									4		New Academic Center		1,400	35	40	
									5		New Academic Center		1,400	35	40	
									6		New Academic Center		1,400	35	40	
									7		New Academic Center		1,400	35	40	
									8		New Academic Center		1,400	35	40	
									9		New Academic Center		1,400	35	40	
									10		New Academic Center		1,400	35	40	
									11		New Academic Center		2,100	35	60	
									0		New Academic Center		1,000	50	0	Dedicated to UAS
				<b>12,076</b>		<b>544</b>		<b>404</b>	<b>11</b>				<b>17,016</b>		<b>446</b>	

Additional Notes

KBOR Study included Tech West 166 which has been used as the AR/VR Lab in recent semesters

KBOR Study included Tech West 169 which is the UAS Teaching Lab

NSF/Seat for existing classrooms is estimated based on K-State Classroom Design Standards (2019)

Classrooms proposed in the New Academic Center are sized for active learning

### 3► BENCHMARK COST DATA

**K-State Salina  
New Academic Center - Construction Cost Benchmarking (Construction costs include Building & Sitework)**

	Project	Bldg. Area	Bldg. Type	Construction Cost	Cost/GSF	Year completed and cost escalation at 3.5% annually								1.035
						2016	2017	2018	2019	2020	2021	2022	2023	2024
1	FHSU-Applied Technology Center	58,502	GSF Vocational Lab/Shop/Class	\$11,328,200	\$193.64	X	\$200	\$207	\$215	\$222	\$230	\$238	\$246	\$255
2	KSU-College of Business Administration	160,000	GSF Classroom/Office	\$40,900,000	\$255.63	X	\$265	\$274	\$283	\$293	\$304	\$314	\$325	\$337
3	WSU Bardo Center	133,216	GSF Lab/Classroom/Office	\$26,900,000	\$201.93		X	\$209	\$216	\$224	\$232	\$240	\$248	\$257
4	UMKC School Engineering Computing	57,873	GSF Engineering Lab/ Intensive	\$21,406,616	\$369.89				X	\$382.84	\$383	\$383	\$383	\$383
5	JCCC Hugh Libby Career and Tech Ed Center	72,000	GSF Vocational Lab/Class/Shops	\$23,049,369	\$320.13				X	\$331	\$343	\$355	\$367	\$380
6	FHSU Center for Student Success	46,067	GSF Classroom/Office	\$11,955,000	\$259.51					X	\$269	\$278	\$288	\$298
7	MNU Student Center	47,324	GSF Classroom/Office/Food Service	\$15,817,822	\$334.25					X	\$346	\$358	\$371	\$384
8	OSU -New Frontiers	201,795	GSF Lab/Classroom/Office	\$74,702,263	\$370.19						X	\$383	\$397	\$410
9	KCKCC-Applied Tech Center	114,200	GSF Vocational Lab/Class/Office	\$42,240,000	\$369.88						X	\$383	\$396	\$410
												Sub-Total	\$2,932	\$3,113
												Average Cost /GSF	\$366	\$389
												Project Soft Cost Allowance at 30% of Construction Cost	\$110	\$117
												Estimated Total Project Cost Per SF	\$476	\$506



- CLASSROOM
- FACULTY OFFICE
- STUDENT SERVICES
- TEACHING LAB
- PROF. ED. & OUTREACH
- STUDENT STUDY
- OPERATIONS
- BUILDING SUPPORT



COMPOSITES BUILDING  
BUILDING #3



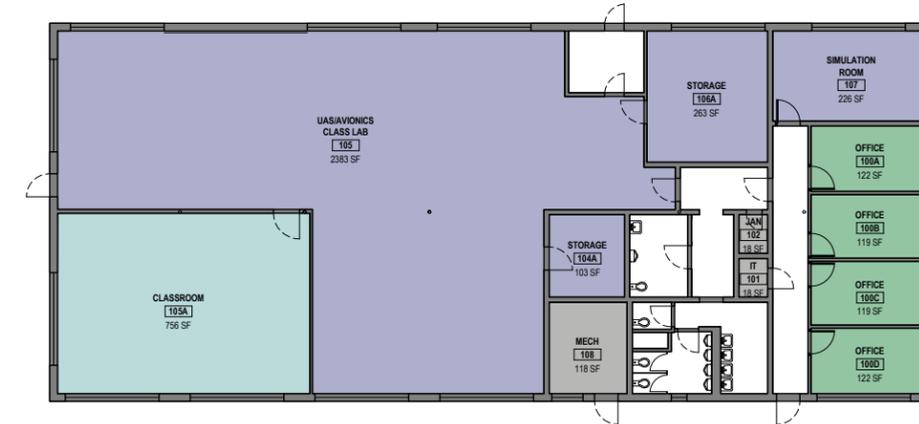
5► EXISTING BUILDING PLANS / SPACE USE



**AERONAUTICAL CENTER / STEVENS FLIGHT CENTER  
BUILDING #4**

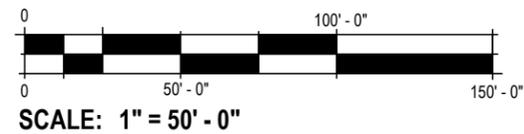


5► EXISTING BUILDING PLANS / SPACE USE

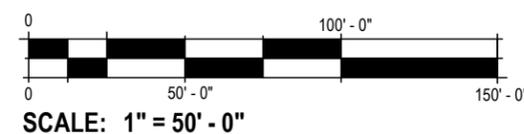


**U.A.S. LABORATORY  
BUILDING #5**



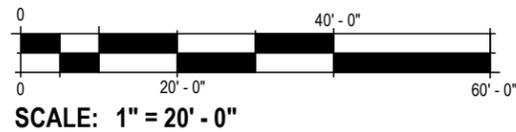
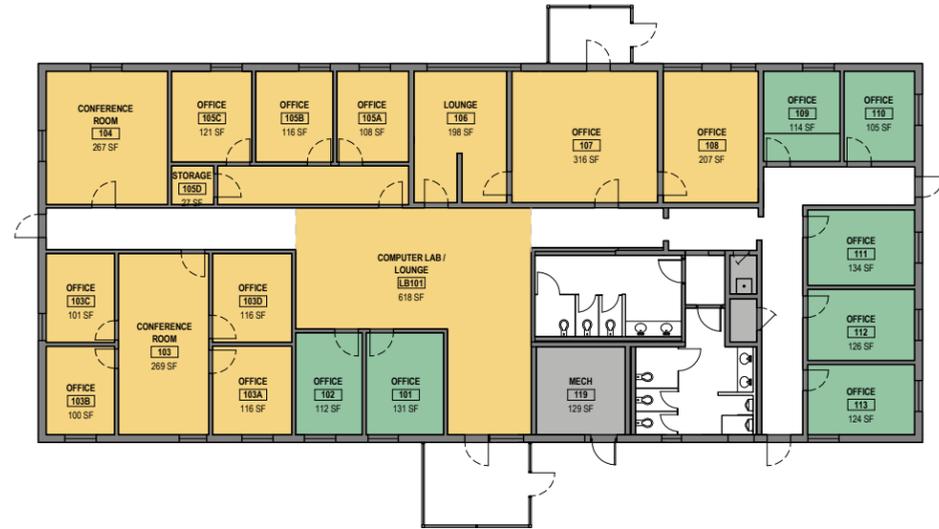


**TECHNOLOGY CENTER  
BUILDING #6**

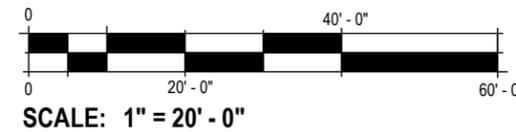
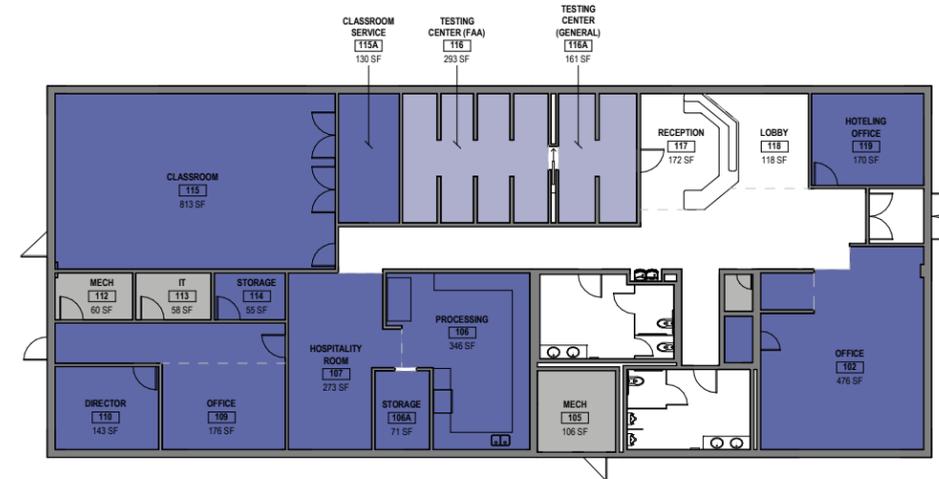


**TECHNOLOGY WEST  
BUILDING #7**





**TULLIS BUILDING  
BUILDING #10**



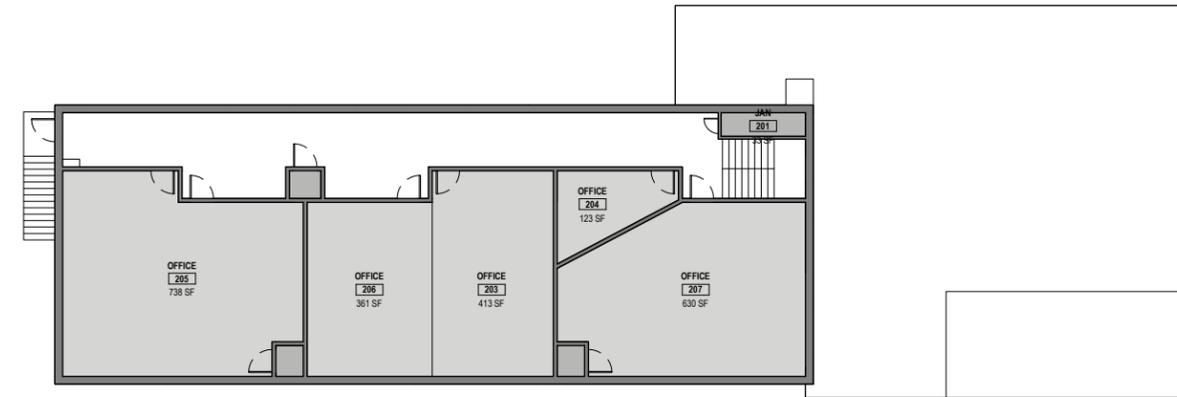
**OUTREACH CENTER  
BUILDING #12**





SCALE: 1" = 20' - 0"

EXTENSION CENTER  
BUILDING #13



SCALE: 1" = 20' - 0"

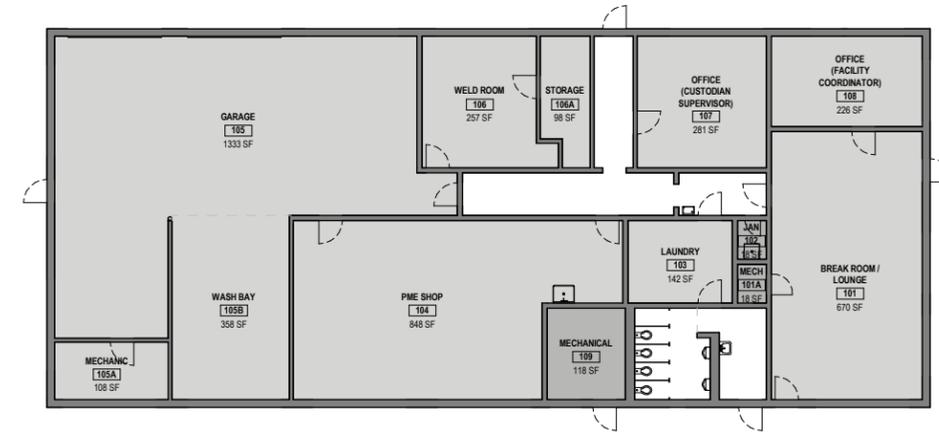
EXTENSION CENTER  
BUILDING #13





SCALE: 1" = 20' - 0"

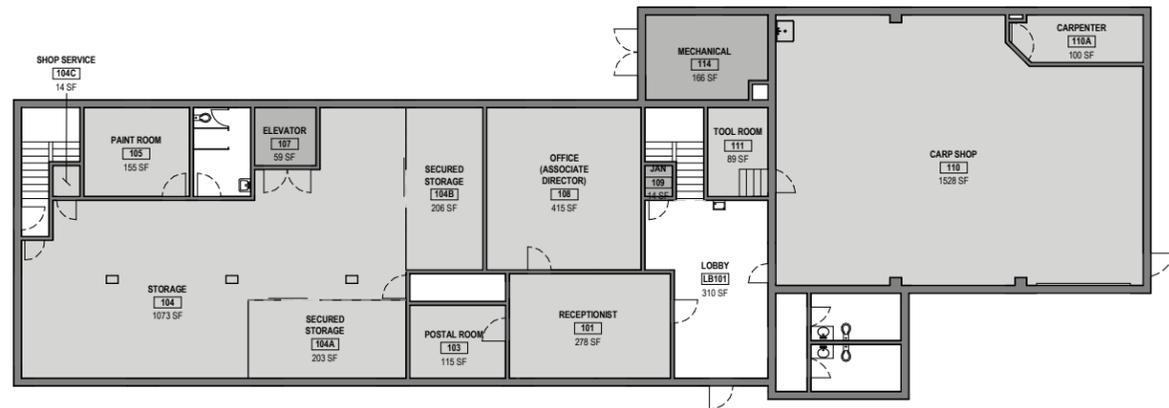
**CONSTRUCTION LAB  
BUILDING #14**



SCALE: 1" = 20' - 0"

**MAINTENANCE  
BUILDING #15**





SCALE: 1" = 20' - 0"

FACILITIES  
BUILDING #16



SCALE: 1" = 20' - 0"

FACILITIES  
BUILDING #16





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