

DRAMATIC COMEBACK

Successful Reuse of Aged Facilities



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PRESENTATION OBJECTIVES

IDENTIFY POTENTIAL TO TRANSFORM A FACILITY TO MEET FUTURE NEEDS

UNDERSTAND THE DESIGN AND CONSTRUCTION PROCESS OF RENOVATION

DETERMINE WHEN IT IS APPROPRIATE TO RENOVATE

REVIEW SPECIFIC EXAMPLES THAT DEMONSTRATE THESE OBJECTIVES



PRESENTATION OUTLINE

I. BACKGROUND & PROCESS

Construction statistics

Building eras

Renovation terminology

Why renovate?

Renovation process

II. PROJECT EXAMPLES

III. SCHEDULE & COST

IV. DISCUSSION



PART I

BACKGROUND & PROCESS

U.S. CONSTRUCTION STATISTICS

2012 CONSTRUCTION SPENDING

AMUSEMENT & RECREATION

COLLEGES & UNIVERSITIES

New Construction

Additions & Renovations

\$856,955,000,000

\$14,978,000,000

\$9,734,534,000

\$7,133,195,000

\$2,601,339,000

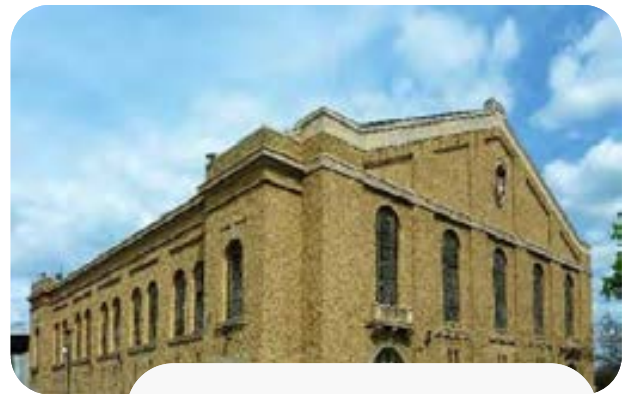
SOURCE:

U.S. Census Bureau

College Planning & Management



BUILDING ERAS



1900-1930

- HISTORIC
- QUALITY



1930-1950

- SEMI-HISTORIC
- MODERATE



1950-1980

- NOT HISTORIC
- SPOTTY



1980+

- IMPROVED QUALITY

TERMINOLOGY

RENOVATION

Upgrade existing space

Maintain same function



TERMINOLOGY

RESTORATION

Reinstating original condition of the building



TERMINOLOGY

RETROFIT

Addition of a space within a space

Building inside the box



TERMINOLOGY

ADAPTIVE REUSE

Changing the use of building or space
Very effective use of space



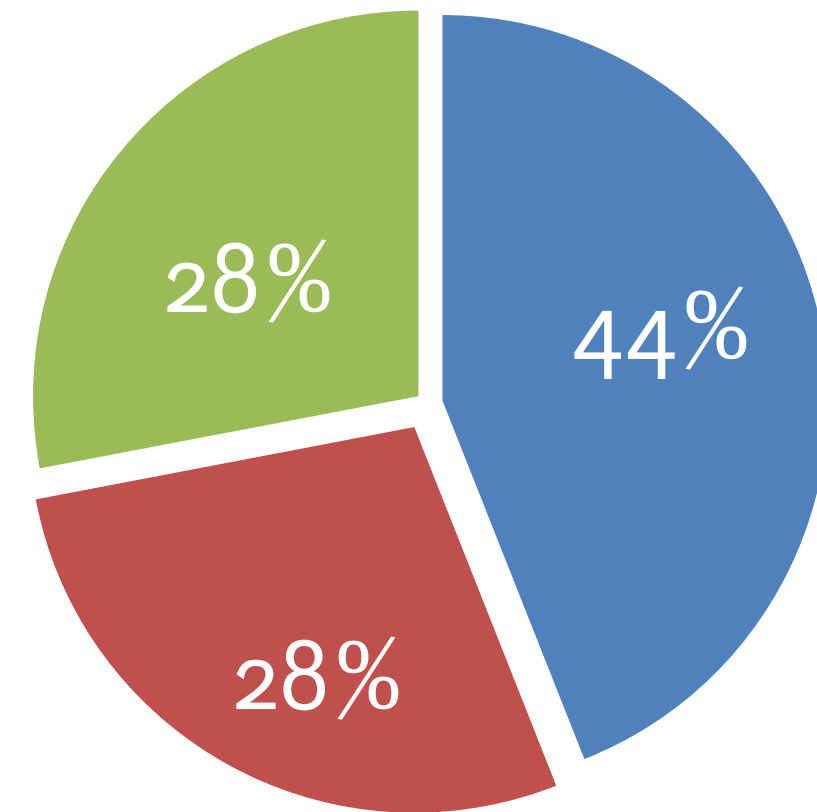
ADDITIONS

THE VAST MAJORITY OF RENOVATION PROJECTS INCLUDE ADDITIONS

ADDITIONS ADDRESS MANY CHALLENGES:

- Fundraising
- Program
- Flexibility
- Phasing
- Occupancy

OFTEN THE KEY TO PROJECT SUCCESS



■ New ■ Addition ■ Renovation

RENOVATION MYTHS

LESS EXPENSIVE

MORE EXPENSIVE

COMPROMISE

Program space

Quantity

Quality

STILL THE OLD BUILDING



REALITIES

WIDE RANGE IN COST

LESS PREDICTABLE COST THAN NEW

GREATER CONSTRUCTION CONTINGENCY

Wider range in construction bids

Unknown conditions

CONCURRENT OCCUPANCY DURING
CONSTRUCTION

MORE DIFFICULT TO RAISE MONEY

Private fundraising

Bond issue



WHY RENOVATE?

MANY OPPORTUNITIES

POTENTIAL SAVINGS

Time

Money

PRESERVATION OF

Legacy

History/heritage

SUSTAINABILITY

LEED points earned



SUSTAINABILITY

UP TO 32 LEED POINTS RELATED
TO RENOVATION

30% of Total Points Available (110)

Y	?	N	
0	15	11	SUSTAINABLE SITES
	1		SITE SELECTION
	5		DEVELOPMENT DENSITY AND COMMUNITY CONNECTIVITY
	1		BROWNFIELD REDEVELOPMENT
	6		ALTERNATIVE TRANSPORTATION—PUBLIC TRANSPORTATION ACCESS
		1	ALTERNATIVE TRANSPORTATION—BICYCLE STORAGE AND CHANGING ROOMS
		3	ALTERNATIVE TRANSPORTATION—LOW-EMITTING AND FUEL-EFFICIENT VEHICLES
	2		ALTERNATIVE TRANSPORTATION—PARKING CAPACITY
		1	SITE DEVELOPMENT—PROTECT OR RESTORE HABITAT
		1	SITE DEVELOPMENT—MAXIMIZE OPEN SPACE
		2	STORM WATER DESIGN—QUANTITY & QUALITY CONTROL
		2	HEAT ISLAND EFFECT—ROOF
		1	LIGHT POLLUTION REDUCTION
0	0	10	WATER EFFICIENCY
		4	WATER EFFICIENT LANDSCAPING
		2	INNOVATIVE WASTEWATER TECHNOLOGIES
		4	WATER USE REDUCTION
0	6	29	ENERGY AND ATMOSPHERE
	6	13	OPTIMIZE ENERGY PERFORMANCE
		7	ON-SITE RENEWABLE ENERGY
		2	ENHANCED COMMISSIONING
		2	ENHANCED REFRIGERANT MANAGEMENT
		3	MEASUREMENT AND VERIFICATION
		2	GREEN POWER

SUSTAINABILITY

4 LEED POINTS ARE AVAILABLE
 ONLY FOR RENOVATION PROJECTS
 10% Basic Certification Level (40)

4	2	8	MATERIALS AND RESOURCES
3			BUILDING REUSE—MAINTAIN EXISTING WALLS, FLOORS, AND ROOF
1			BUILDING REUSE—MAINTAIN 50% OF INTERIOR NON-STRUCTURAL ELEMENTS
	2		CONSTRUCTION WASTE MANAGEMENT
	2		MATERIALS REUSE
	2		RECYCLED CONTENT
	2		REGIONAL MATERIALS
	1		RAPIDLY RENEWABLE MATERIALS
	1		CERTIFIED WOOD
0	0	15	INDOOR ENVIRONMENTAL QUALITY
	1		OUTDOOR AIR DELIVERY MONITORING
	1		INCREASED VENTILATION
	1		CONSTRUCTION IAQ MANAGEMENT PLAN—DURING CONSTRUCTION
	1		CONSTRUCTION IAQ MANAGEMENT PLAN—BEFORE OCCUPANCY
	4		LOW-EMITTING MATERIALS
	1		INDOOR CHEMICAL AND POLLUTANT SOURCE CONTROL
	1		CONTROLLABILITY OF SYSTEMS—LIGHTING
	1		CONTROLLABILITY OF SYSTEMS—THERMAL COMFORT
	1		THERMAL COMFORT—DESIGN
	1		THERMAL COMFORT—VERIFICATION
	1		DAYLIGHT AND VIEWS—DAYLIGHT
	1		DAYLIGHT AND VIEWS—VIEWS
0	5	1	INNOVATION AND DESIGN PROCESS
	5		INNOVATION IN DESIGN
	1		LEED ACCREDITED PROFESSIONAL
0	0	4	REGIONAL PRIORITY CREDITS
	4		REGIONAL PRIORITY
4	28	78	TOTAL

CERTIFIED 40 - 49 SILVER 50 - 59 GOLD 60 - 79 PLATINUM 80 - 110

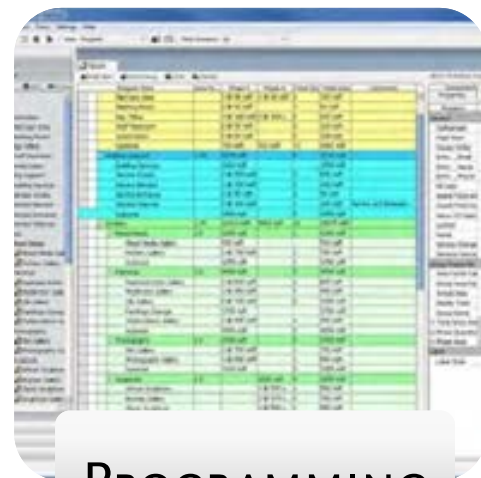
RENOVATION/BUILDING PROCESS

MULTIPLE PHASES COMPRISE A PROJECT

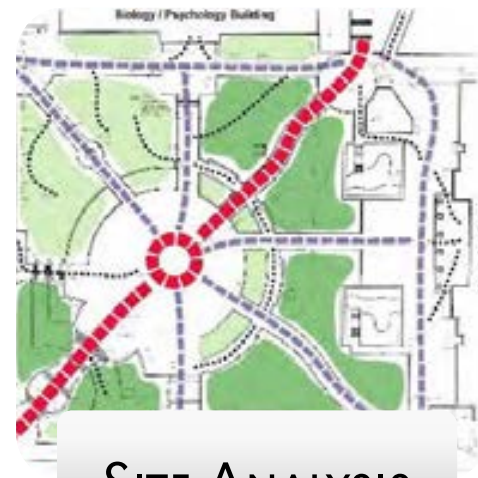
DECISION TO RENOVATE IS MADE DURING THE PROCESS



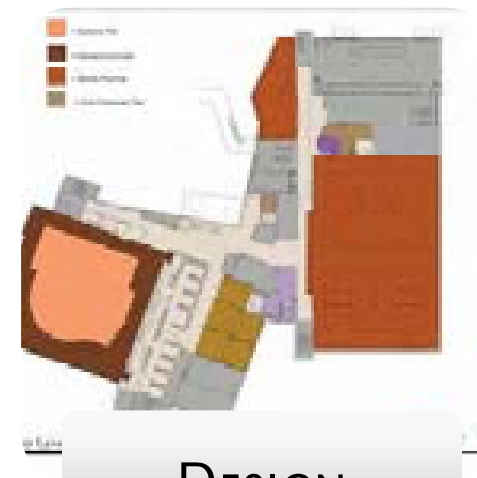
MASTER
PLANNING



PROGRAMMING



SITE ANALYSIS

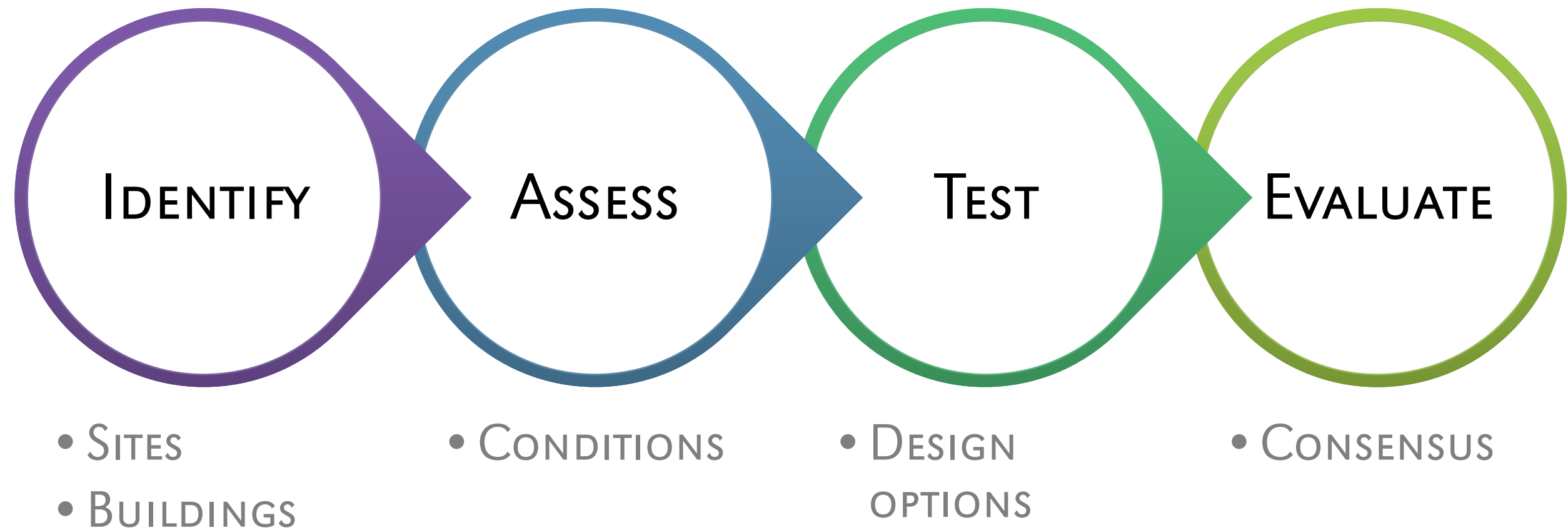


DESIGN



CONSTRUCTION

RENOVATION DESIGN PROCESS



IDENTIFY

REVIEW POTENTIAL SITES

IDENTIFY RENOVATION OPPORTUNITIES

INTEGRATE WITH MASTER PLAN



RENOVATION POTENTIAL?

WILL IT COMPLY WITH THE **MASTER PLAN**?

CAN IT MEET THE **GOALS** OF THE PROJECT?

IS IT **STRUCTURALLY SOUND**?

CAN IT MEET CURRENT **CODE** AND DESIGN STANDARDS?

DOES IT HAVE **ARCHITECTURAL QUALITY**?

DOES IT HAVE **HISTORIC VALUE**?

DOES IT HAVE **USEABLE SPACE** TO MEET FUTURE NEED?

DOES IT HAVE POTENTIAL FOR **ADAPTIVE REUSE**?

WILL IT BE **COST EFFECTIVE**?

TEST

DEVELOP DESIGN ALTERNATIVES

COMPARE TO NEW CONSTRUCTION
OPTIONS

COST/BENEFIT ANALYSIS



EVALUATE

LEADERSHIP INPUT

STAKEHOLDER INPUT

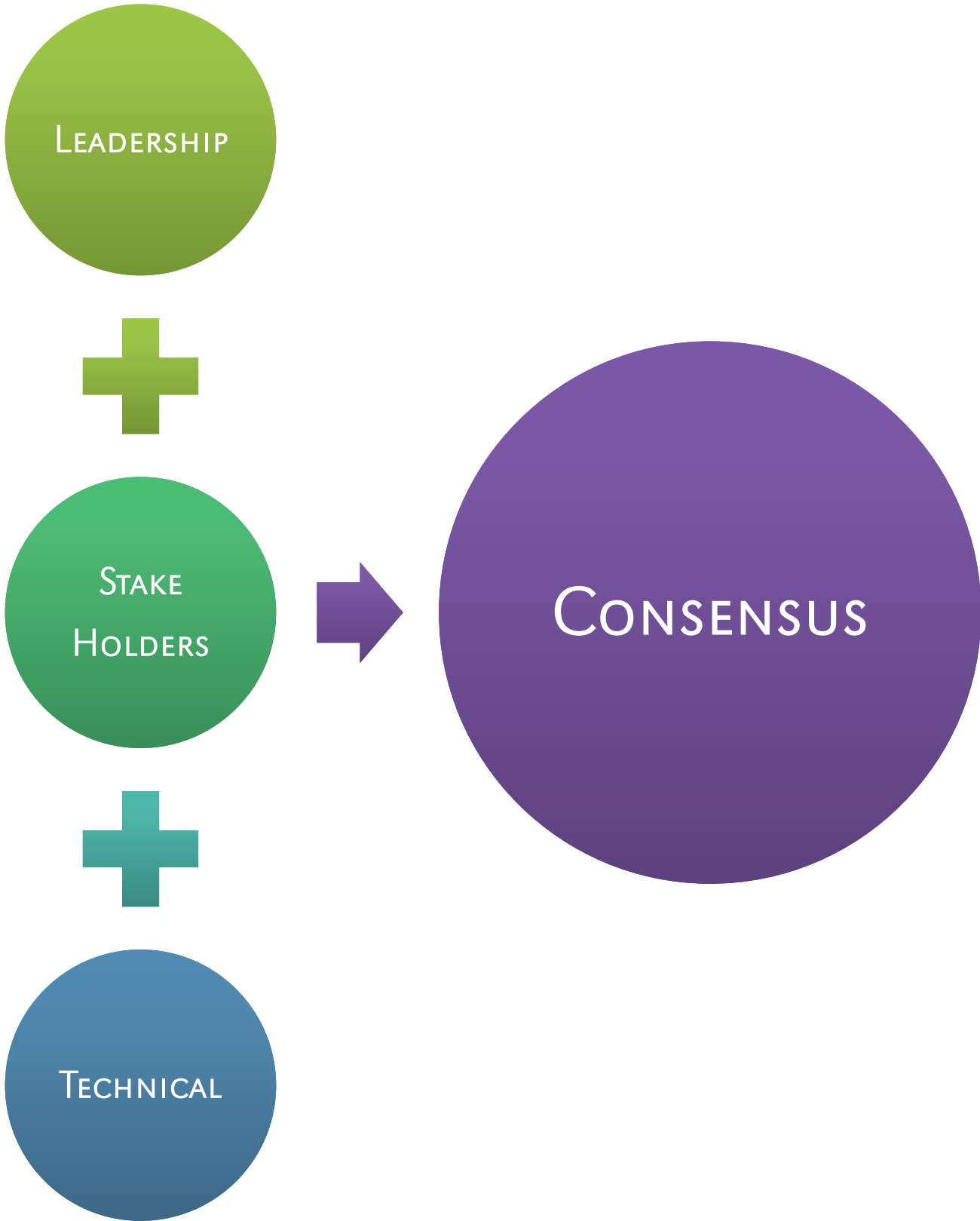
PROFESSIONAL/TECHNICAL INPUT

CONSENSUS DECISION

Justifiable

Defensible

Sellable



PART II

PROJECT EXAMPLES

MARIETTA COLLEGE

1929 FIELD HOUSE + 1978 ADDITION

BUILDING PROGRAM ELEMENTS

Major upgrades throughout

200 meter track

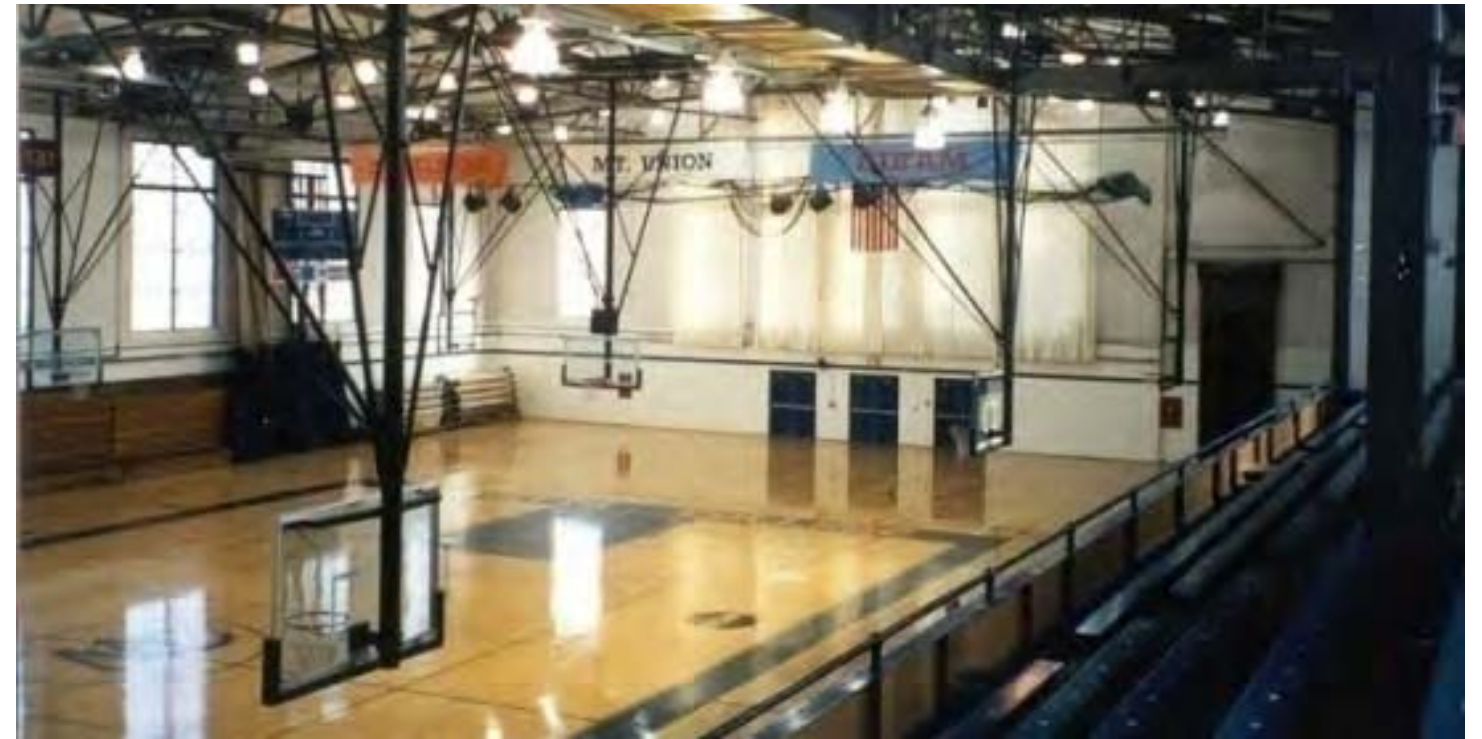
Performance gymnasium

Fitness center

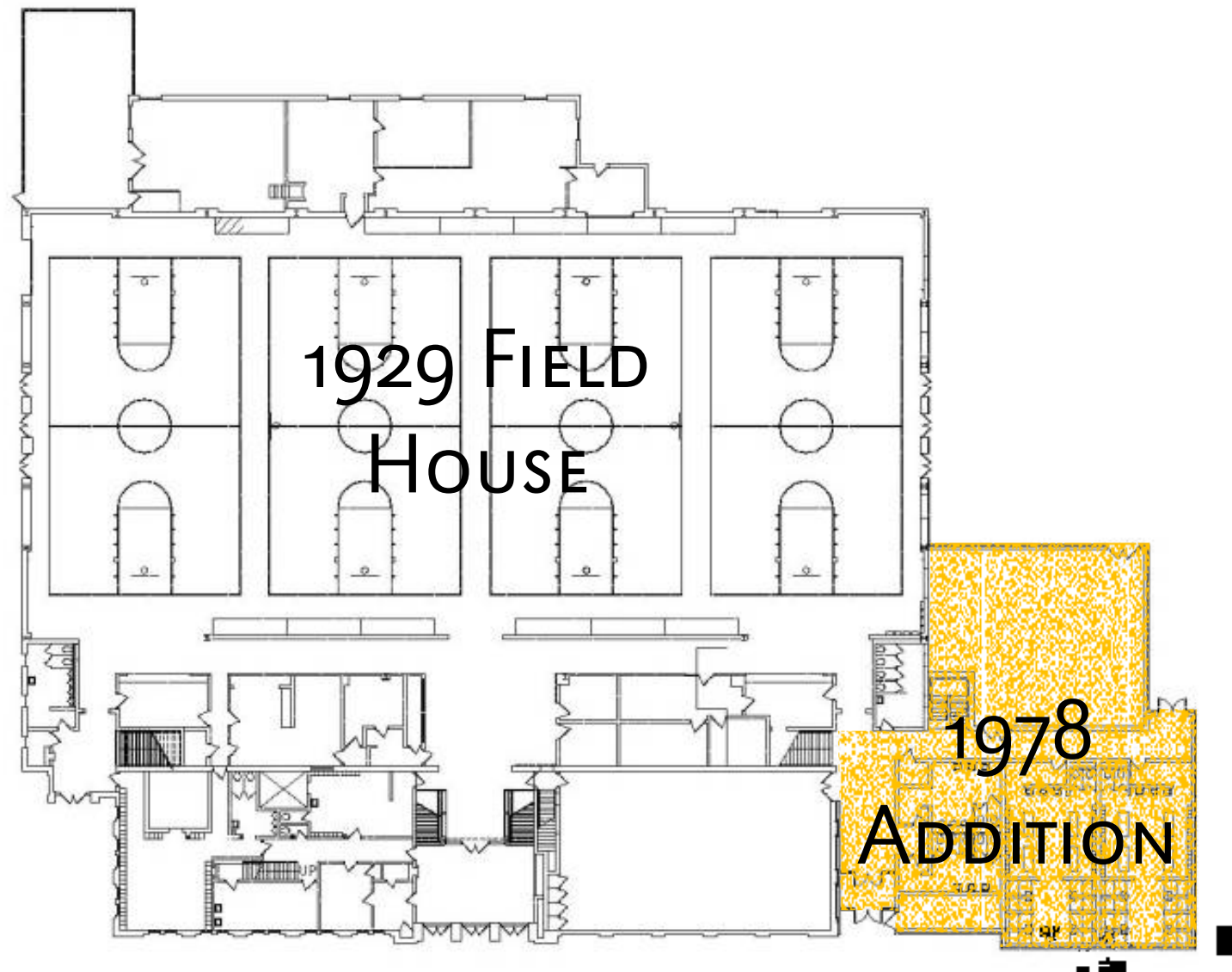
Sports medicine facility

Athletic offices

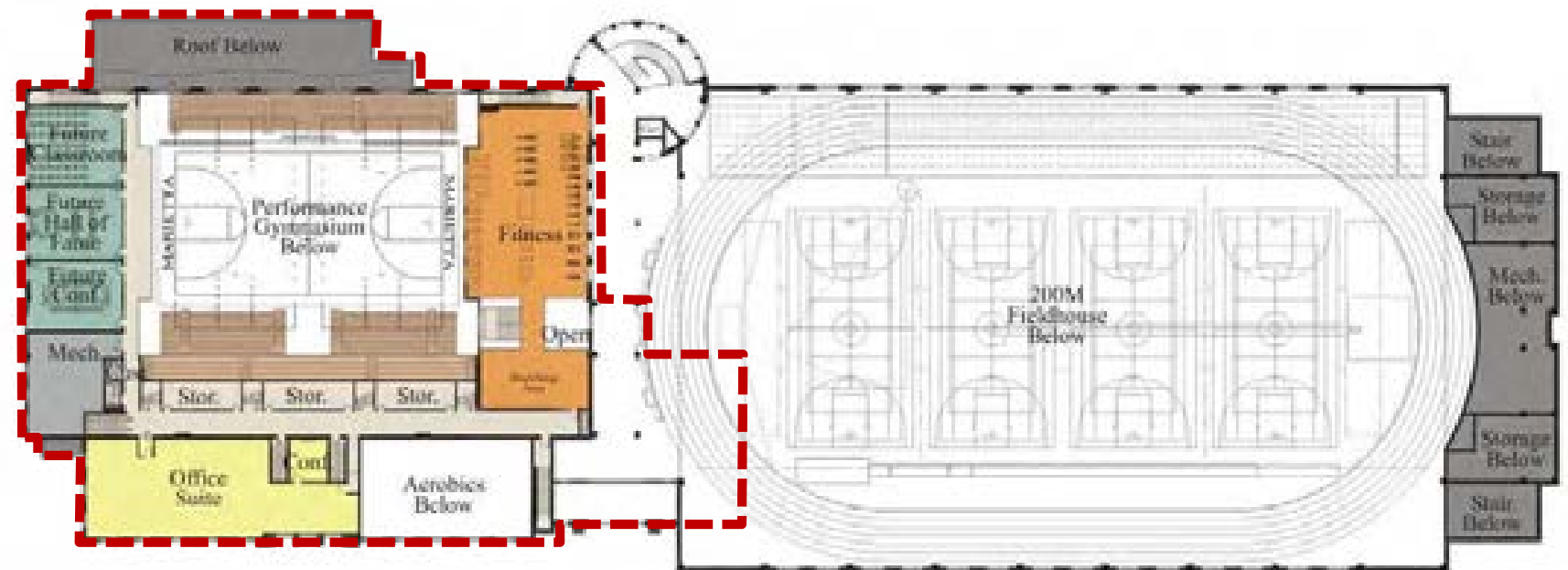
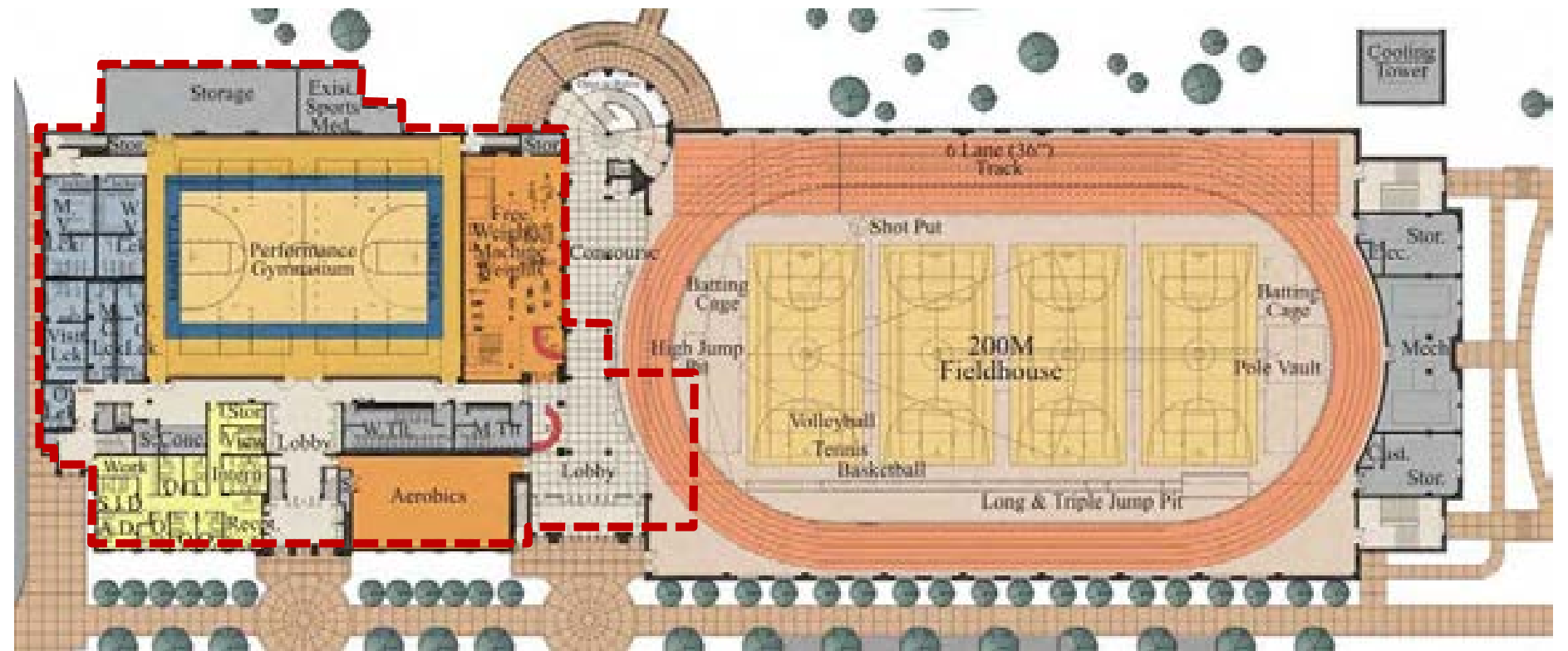
Support space



MARIETTA COLLEGE



MARIETTA COLLEGE



ADDITION

INTEGRATION OF OLD AND NEW



RESTORATION

OUT WITH THE NEW, IN WITH THE OLD
CONTRASTING NEW AND OLD



ADAPTIVE REUSE

LOCKER ROOM



CONFERENCE ROOM



ADAPTIVE REUSE

WEIGHT ROOM



MULTI-PURPOSE



RENOVATION + RETROFIT

ORIGINAL GYM

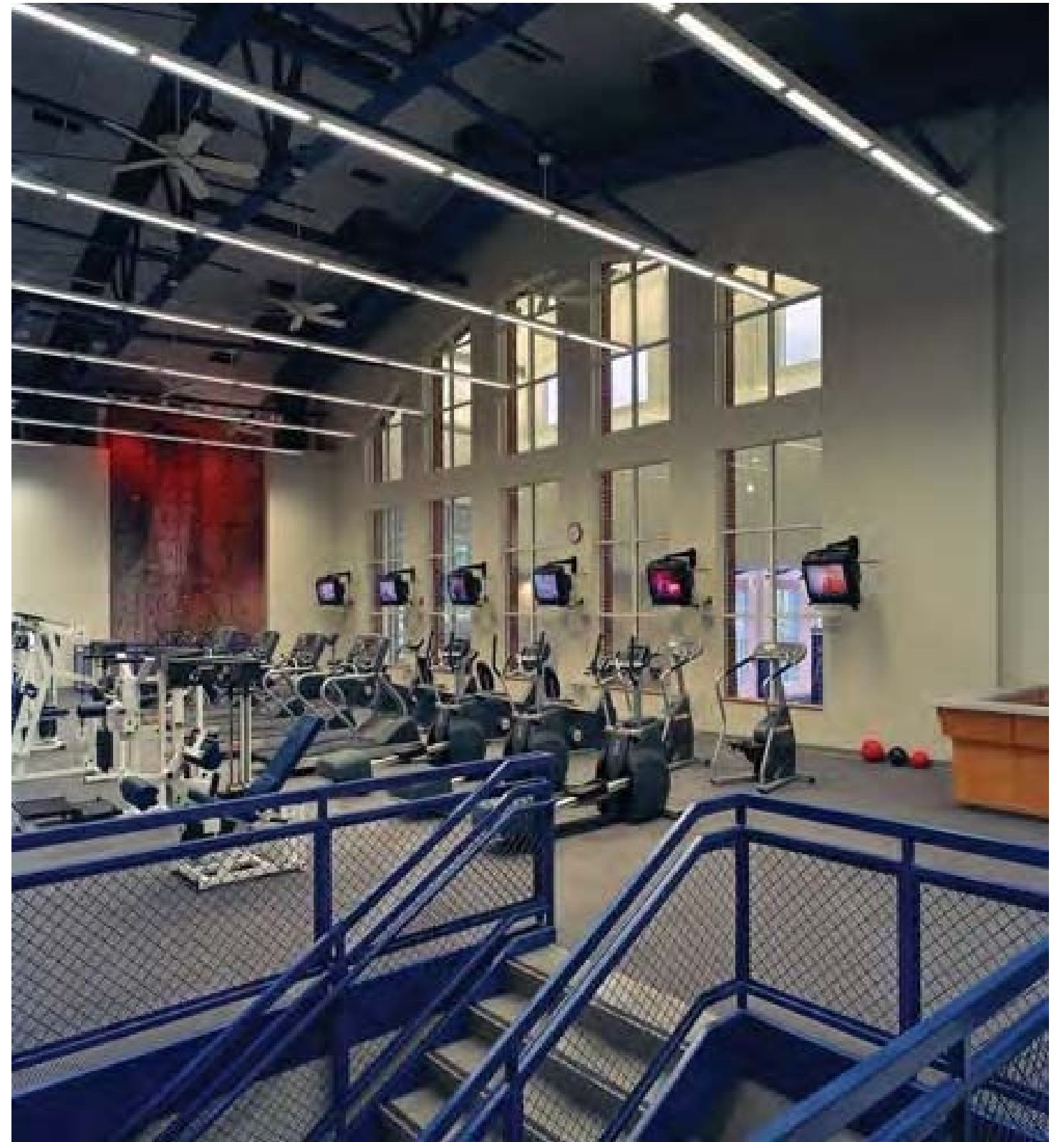


RENOVATED GYM + FITNESS CENTER



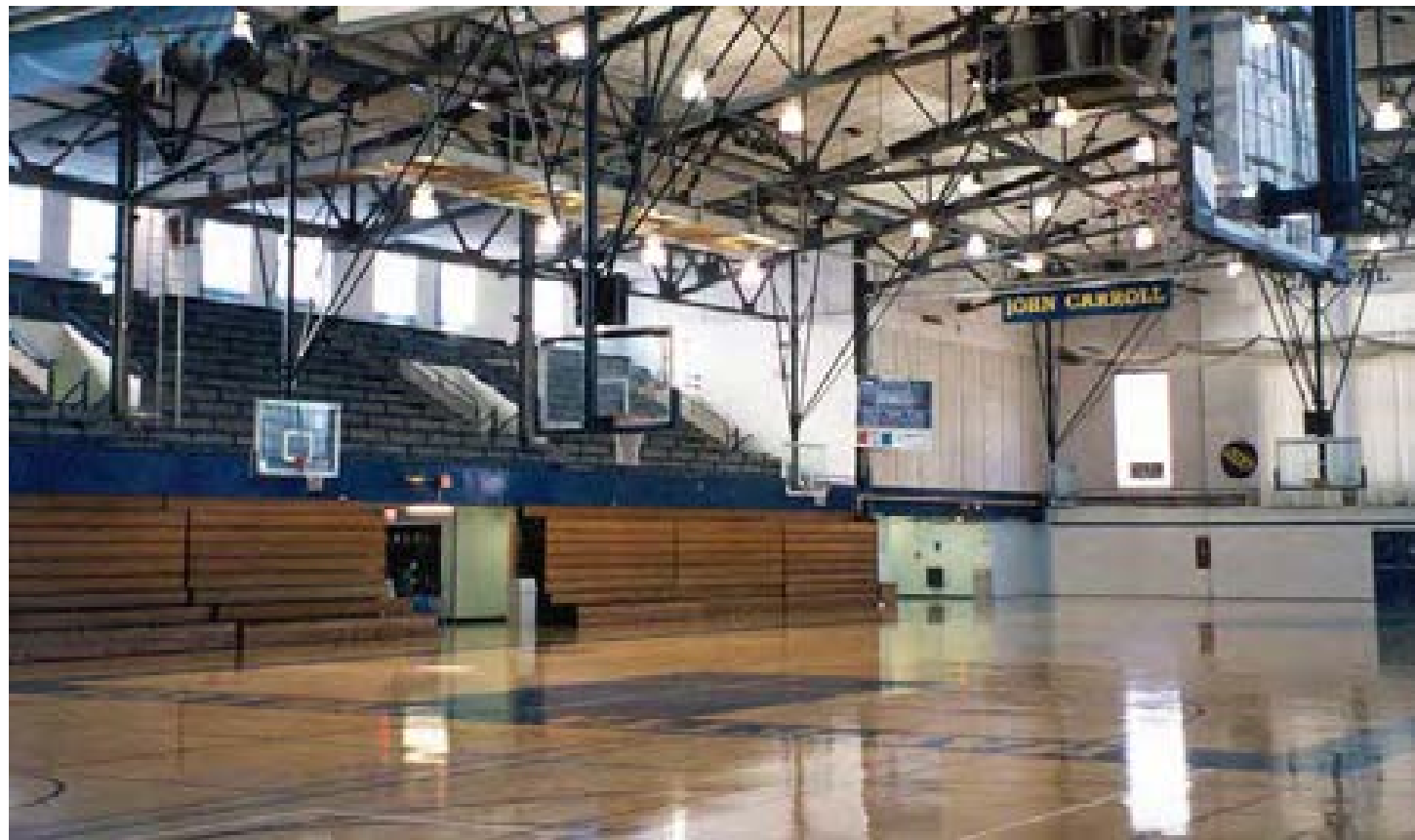
RENOVATION + RETROFIT

GYM + FITNESS CENTER



RENOVATION + RETROFIT

ORIGINAL GYM

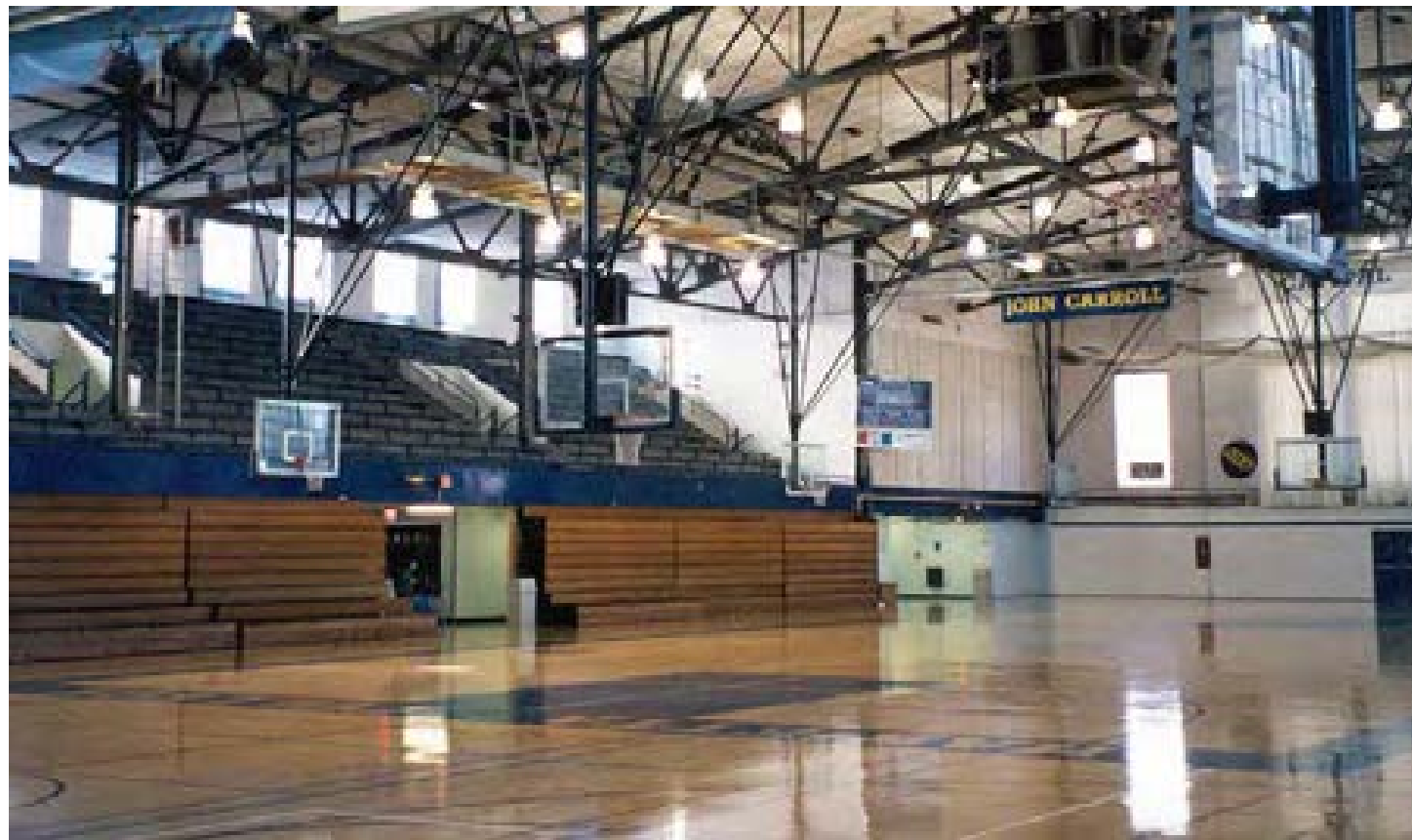


GYM + HALL OF FAME



RENOVATION + RETROFIT

GYM + HALL OF FAME



EARLHAM COLLEGE

1920 FIELD HOUSE + 1978 ADDITION

BUILDING PROGRAM ELEMENTS

New entry

Performance gymnasium

Jogging track

Fitness center

Training room

Climbing wall

Athletic offices

Support space



EARLHAM COLLEGE

1920 FIELD HOUSE



1978 ADDITION



EARLHAM COLLEGE

MAIN ENTRY



LOBBY



EARLHAM COLLEGE

1920 FIELD HOUSE



1978 GYM



EARLHAM COLLEGE

LOCKER ROOM

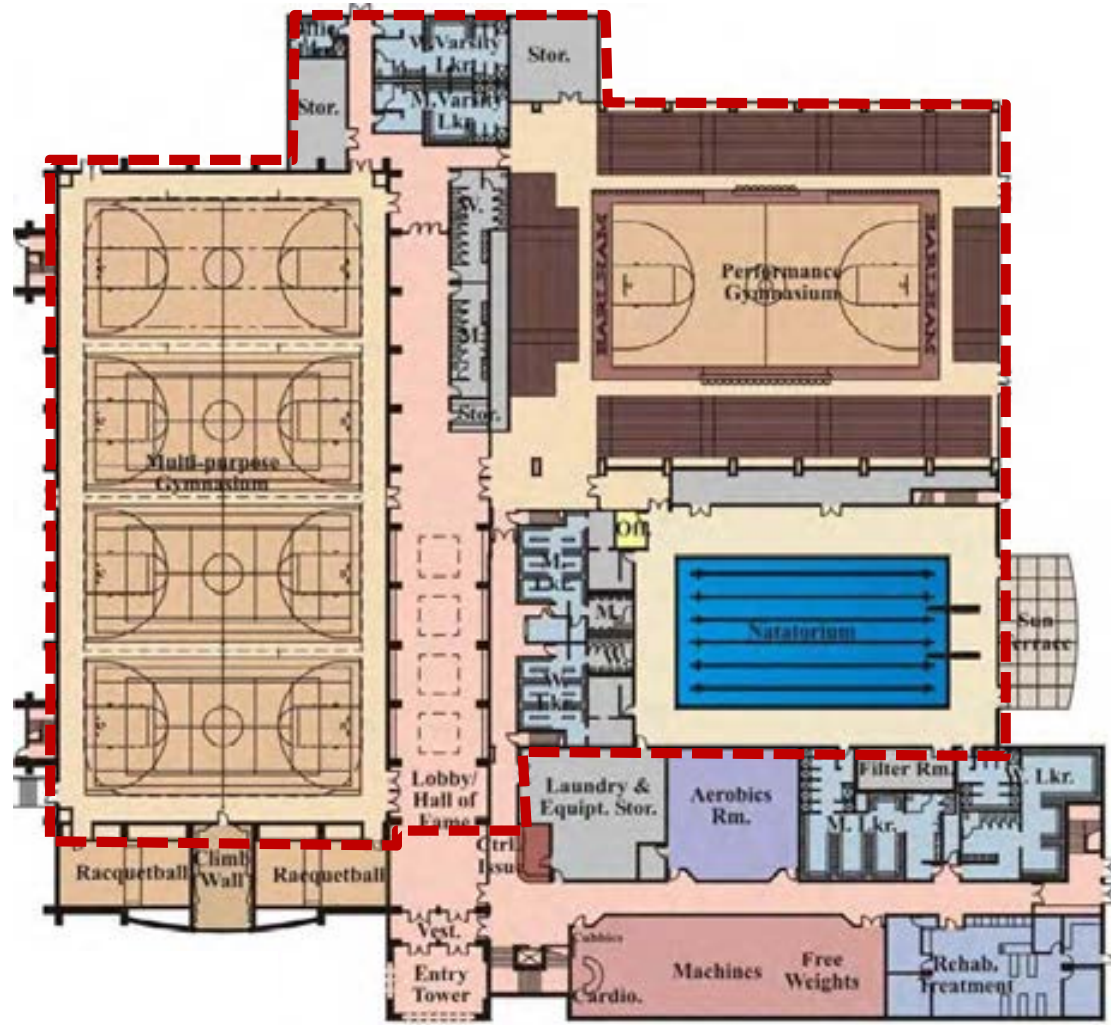


WEIGHT ROOM

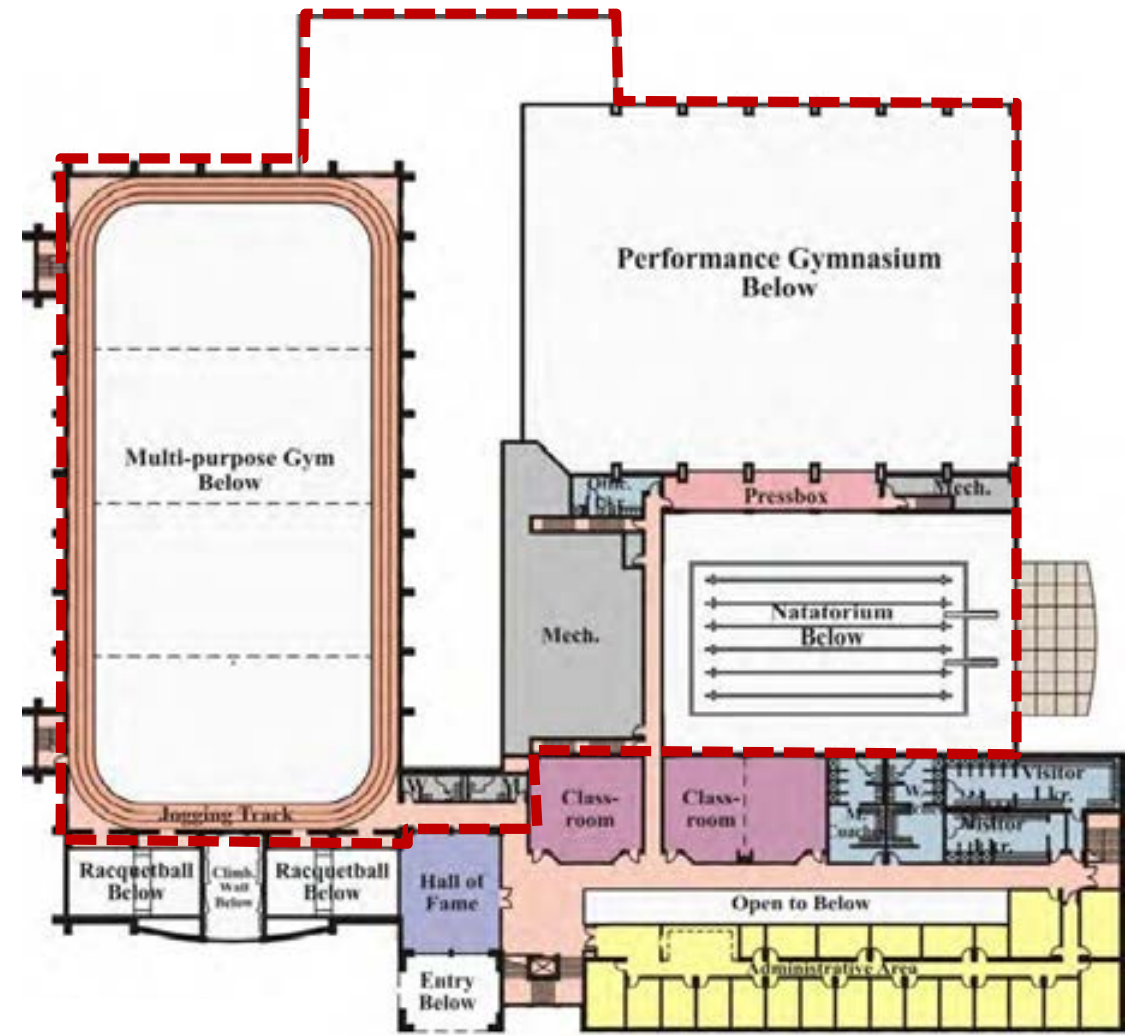


EARLHAM COLLEGE

FIRST LEVEL



SECOND LEVEL



ADDITION

ORIGINAL ENTRY



NEW ENTRY



RENOVATION

OLD LOBBY



NEW CONCOURSE



RENOVATION + RETROFIT

RECREATION GYM + JOGGING TRACK



RENOVATION

ORIGINAL GYM



RENOVATED GYM



RENOVATION

ORIGINAL GYM



RENOVATED GYM



ADDITION

OLD WEIGHT ROOM



NEW FITNESS CENTER



ADDITION

HALL OF FAME + CONCOURSE



UNIVERSITY OF MISSOURI

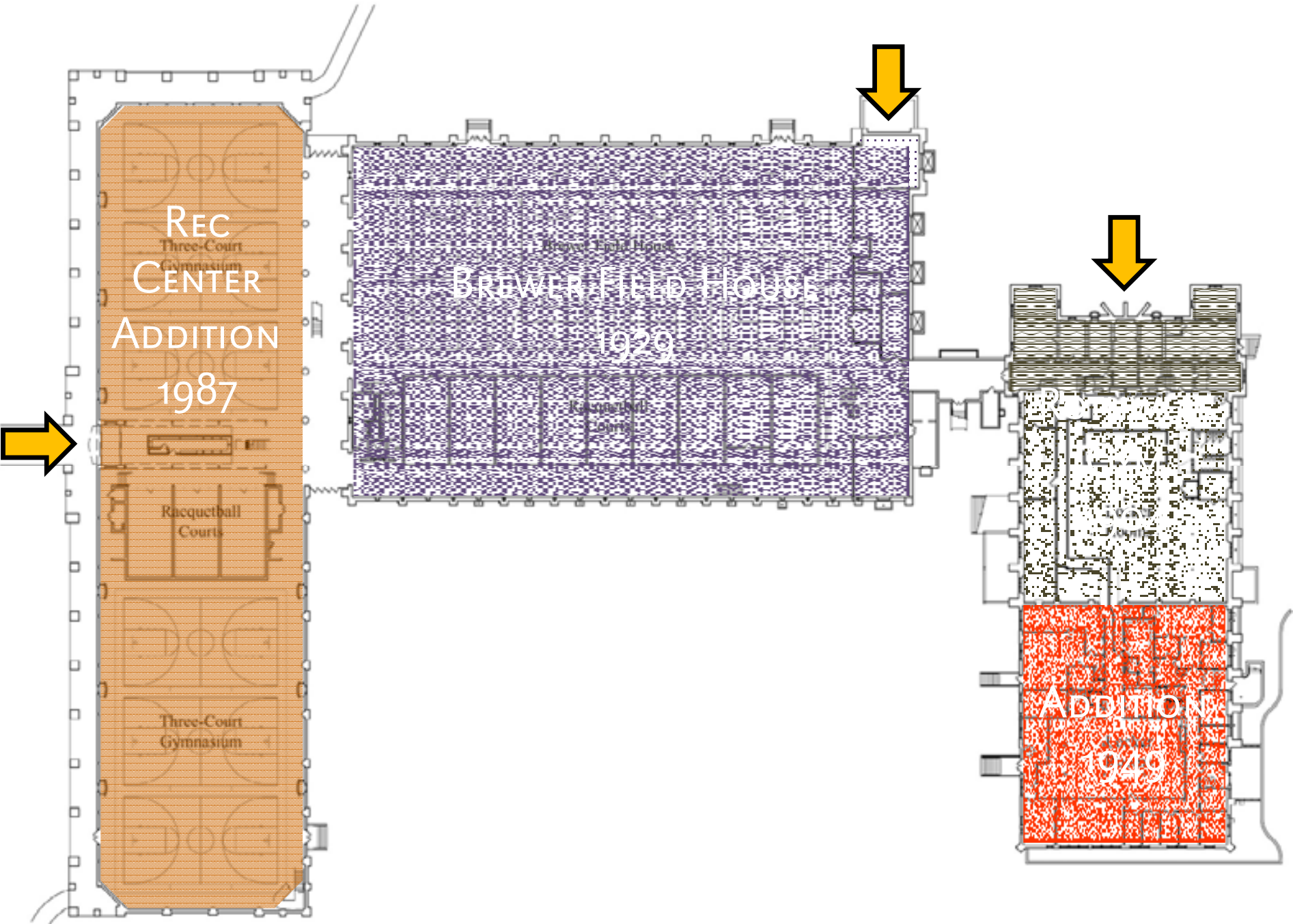
COLLECTION OF BUILDINGS OVER TIME

BUILDING PROGRAM ELEMENTS

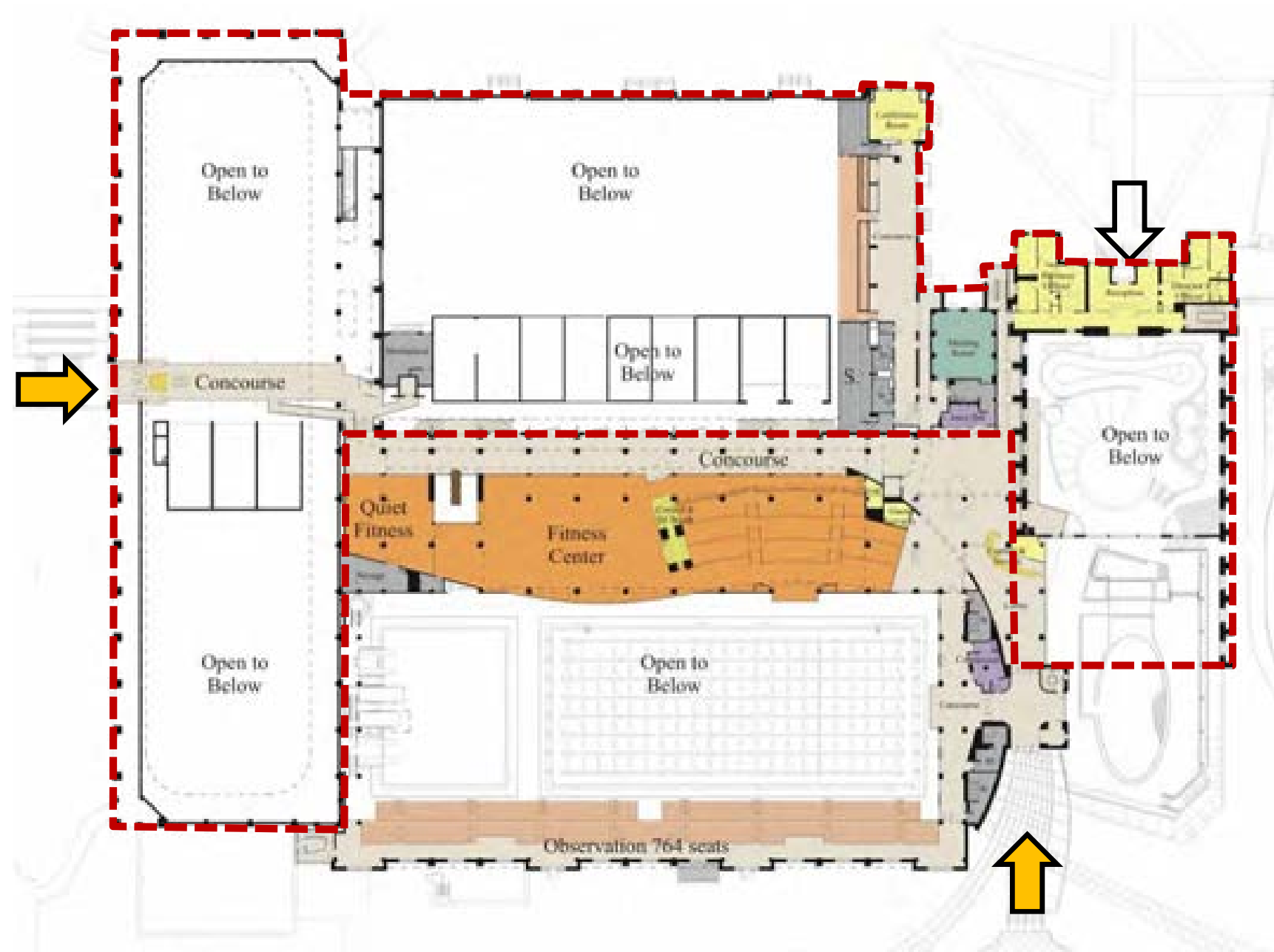
- 50 meter pool
- Diving tank
- Indoor/outdoor leisure pools
- Fitness center
- Climbing wall
- Multi-purpose space
- Wellness center
- Common social space



UNIVERSITY OF MISSOURI



UNIVERSITY OF MISSOURI



UNIVERSITY OF MISSOURI



ADDITION

ORIGINAL



NEW ENTRY/ADDITION



ADDITION

COMPETITION POOL



FITNESS CENTER



ADAPTIVE REUSE

ROTHWELL GYM



LEISURE POOL



ADAPTIVE REUSE

FITNESS CENTER



CONCOURSE



RENOVATION

ORIGINAL REC GYM



RENOVATED REC GYM



ADAPTIVE REUSE/RESTORATION

SQUASH COURT



CONFERENCE ROOM



COLORADO STATE UNIVERSITY

1984 RECREATION CENTER

1996 ADDITION

LACK OF WINDOWS

MAJOR ADDITION REQUIRED

SIGNIFICANT REORGANIZATION OF SPACE

EXTENSIVE RENOVATION

LEED GOLD CERTIFIED



RENOVATION + ADDITION

FIRST LEVEL



SECOND LEVEL



ADDITION

ORIGINAL



NEW ENTRY



ADDITION

ORIGINAL ENTRY



NEW FITNESS CENTER



ADDITION

ORIGINAL FITNESS CENTER



NEW FITNESS CENTER



RENOVATION

ORIGINAL POOL



RENOVATED POOL



UNIVERSITY OF MOUNT UNION

1978 BUILDING + 1986 ADDITION

LACK OF WINDOWS & ARCHITECTURE

EFFICIENT LAYOUT

PROJECT REQUIREMENTS

- Extensive renovation

- Field house expansion

- Fitness center expansion

- Additional gym

- Office space



MOUNT UNION UNIVERSITY

FIRST LEVEL



SECOND LEVEL



ADDITION

ORIGINAL



NEW ENTRY



RENOVATION

ORIGINAL



RENOVATED POOL



RENOVATION

ORIGINAL



RENOVATED FIELD HOUSE



GEORGIA SOUTHERN UNIVERSITY

1996 ORIGINAL BUILDING

NEW BUILDING PROGRAM

Multi-purpose gymnasium

MAC gymnasium

Expanded fitness center

Pool

Expanded climbing wall

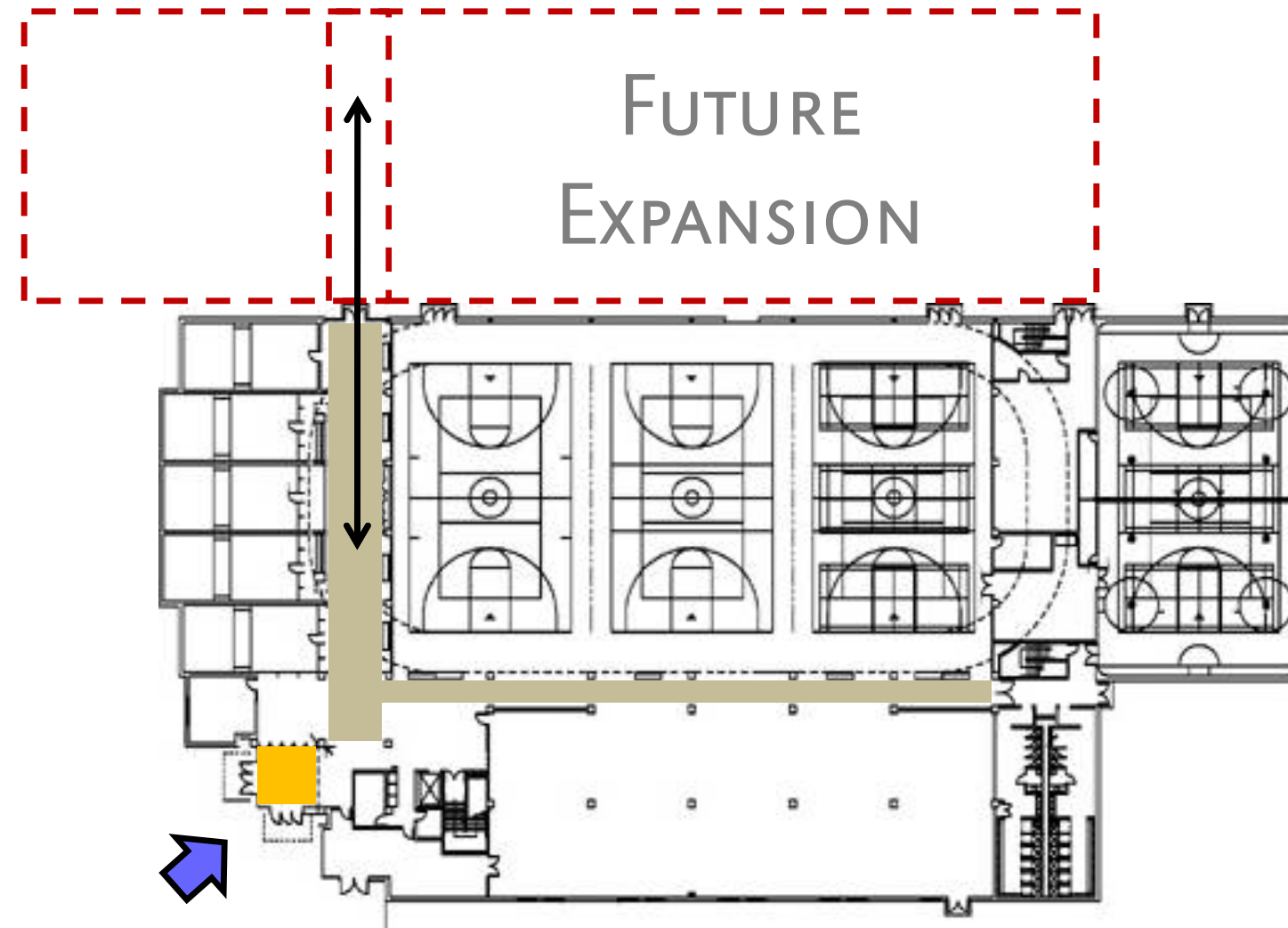
Outdoor recreation

Additional multi-purpose space



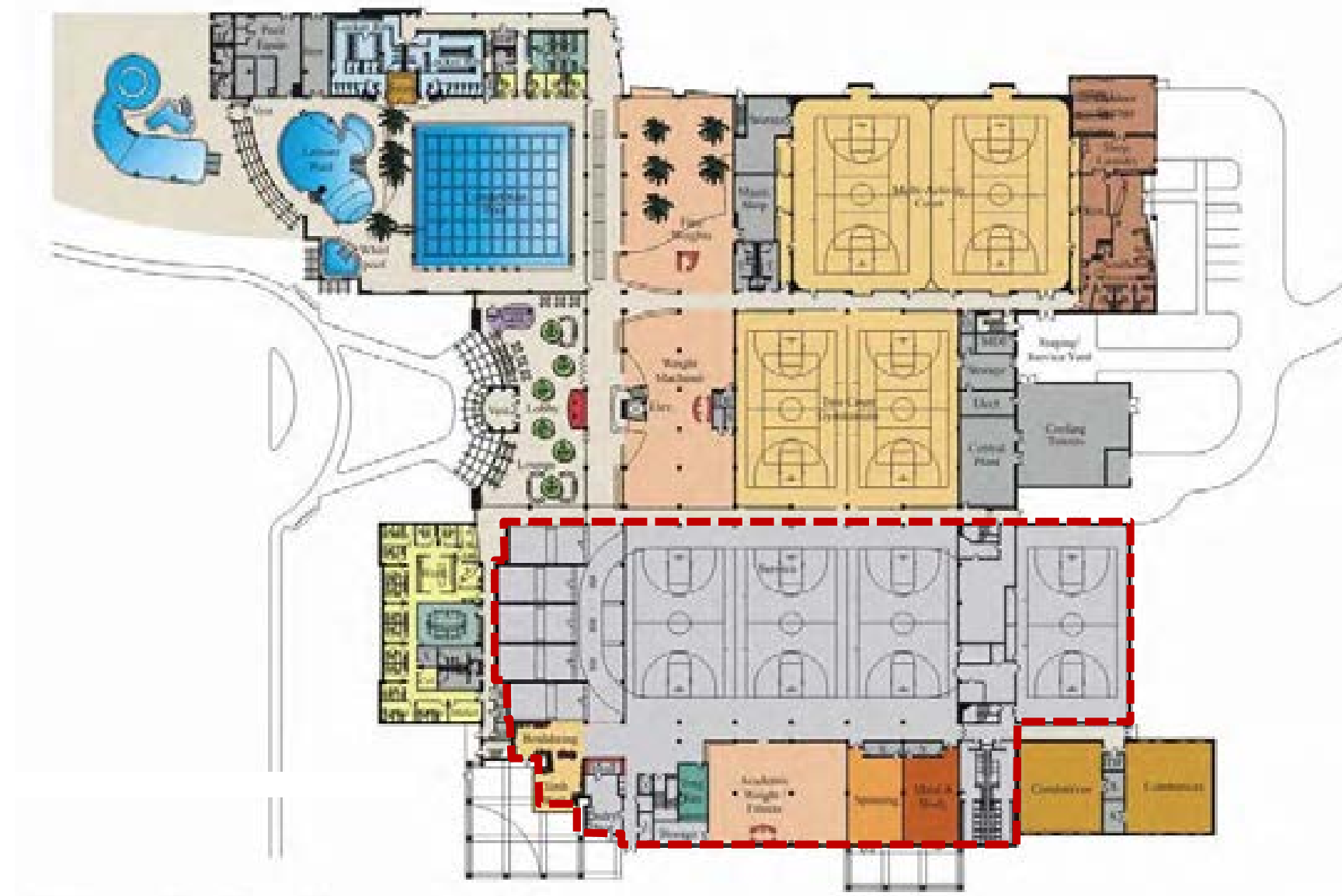
GEORGIA SOUTHERN UNIVERSITY

ORIGINAL DESIGN 1996



GEORGIA SOUTHERN UNIVERSITY

EXPANSION



ADAPTIVE REUSE

ORIGINAL ENTRY



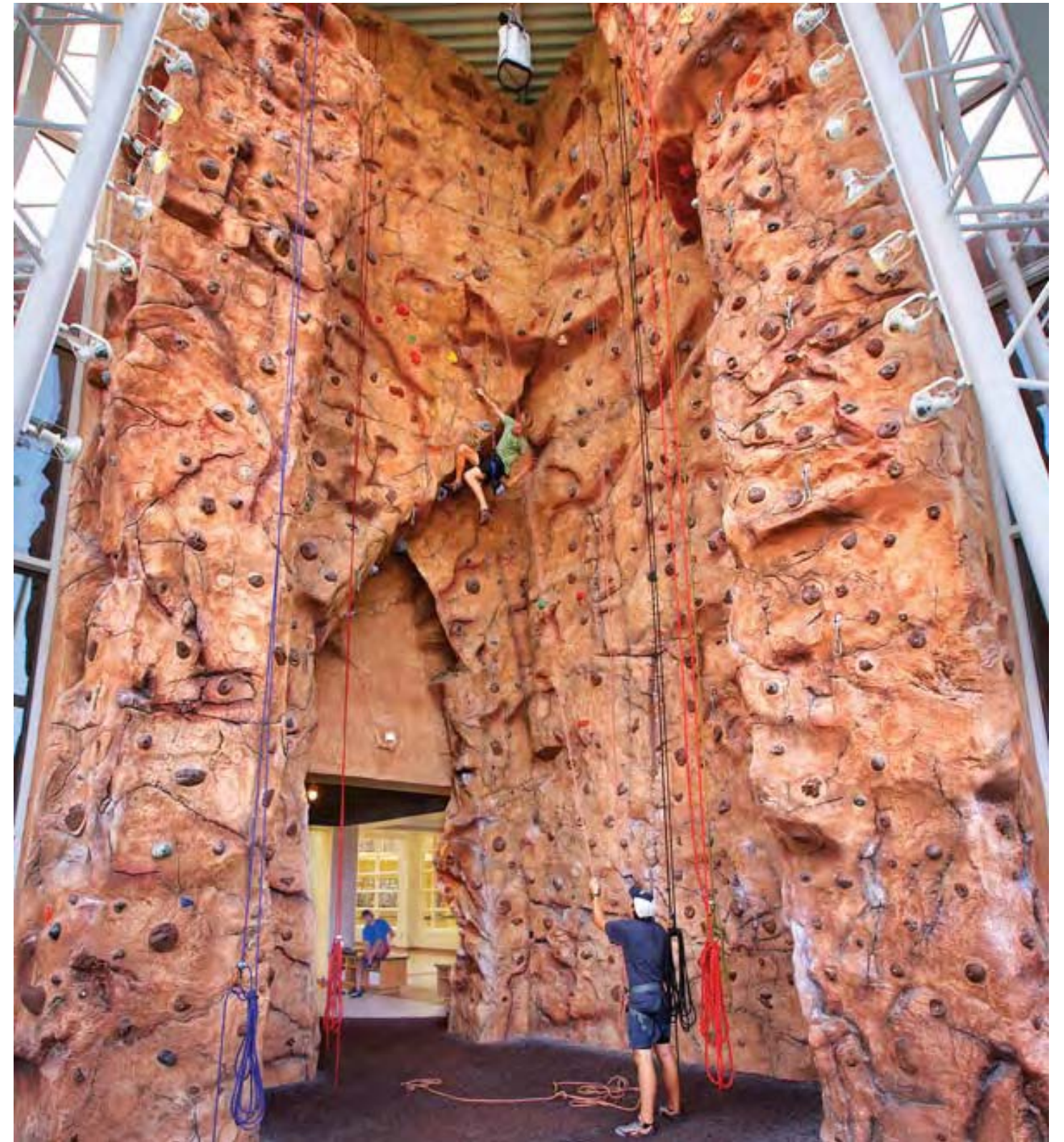
ADAPTIVE REUSE

CLIMBING WALL



ADAPTIVE REUSE

ENTRY LOBBY / CLIMBING WALL



ADDITION



ADDITION



GEORGIA TECH

1977 RECREATION CENTER

1996 ADDITION

OLYMPIC AQUATIC VENUE

PRESERVE LEGACY

SOLAR ROOF

ENCLOSE POOL

RENOVATE

EXPAND RECREATION

500 CAR PARKING GARAGE



GEORGIA TECH

ORIGINAL RECREATION CENTER

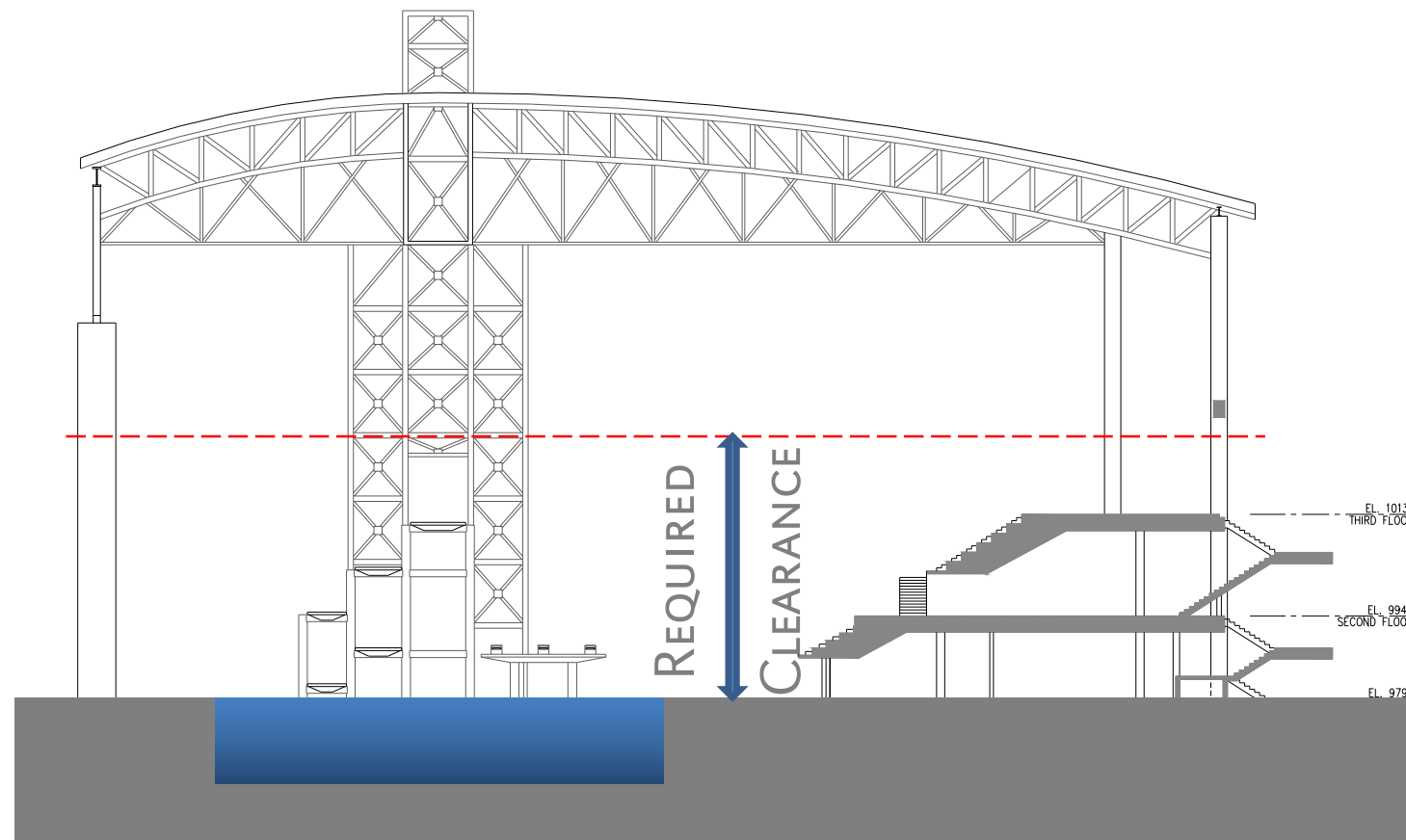


OLYMPIC POOL ADDITION



GEORGIA TECH

POOL SECTION

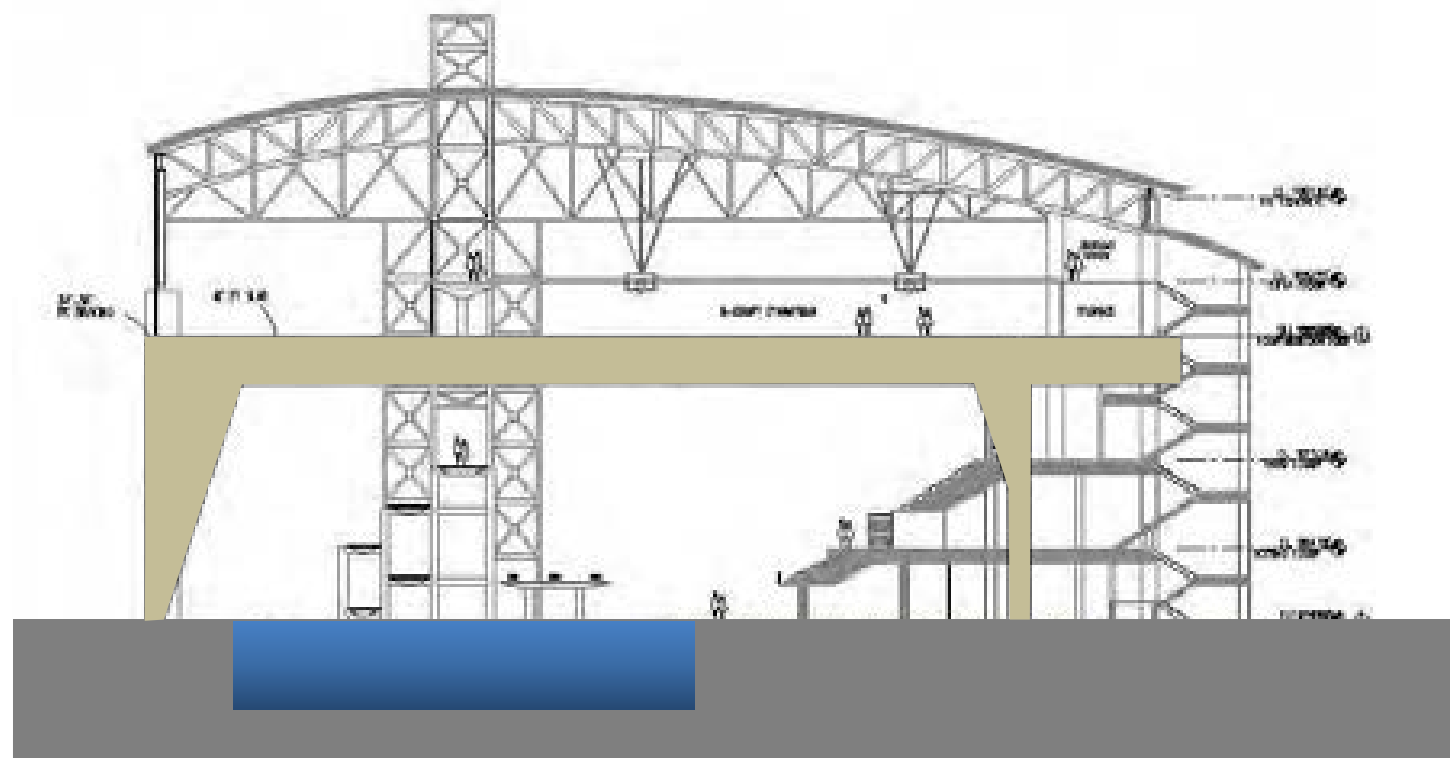


OLYMPIC POOL



RETROFIT

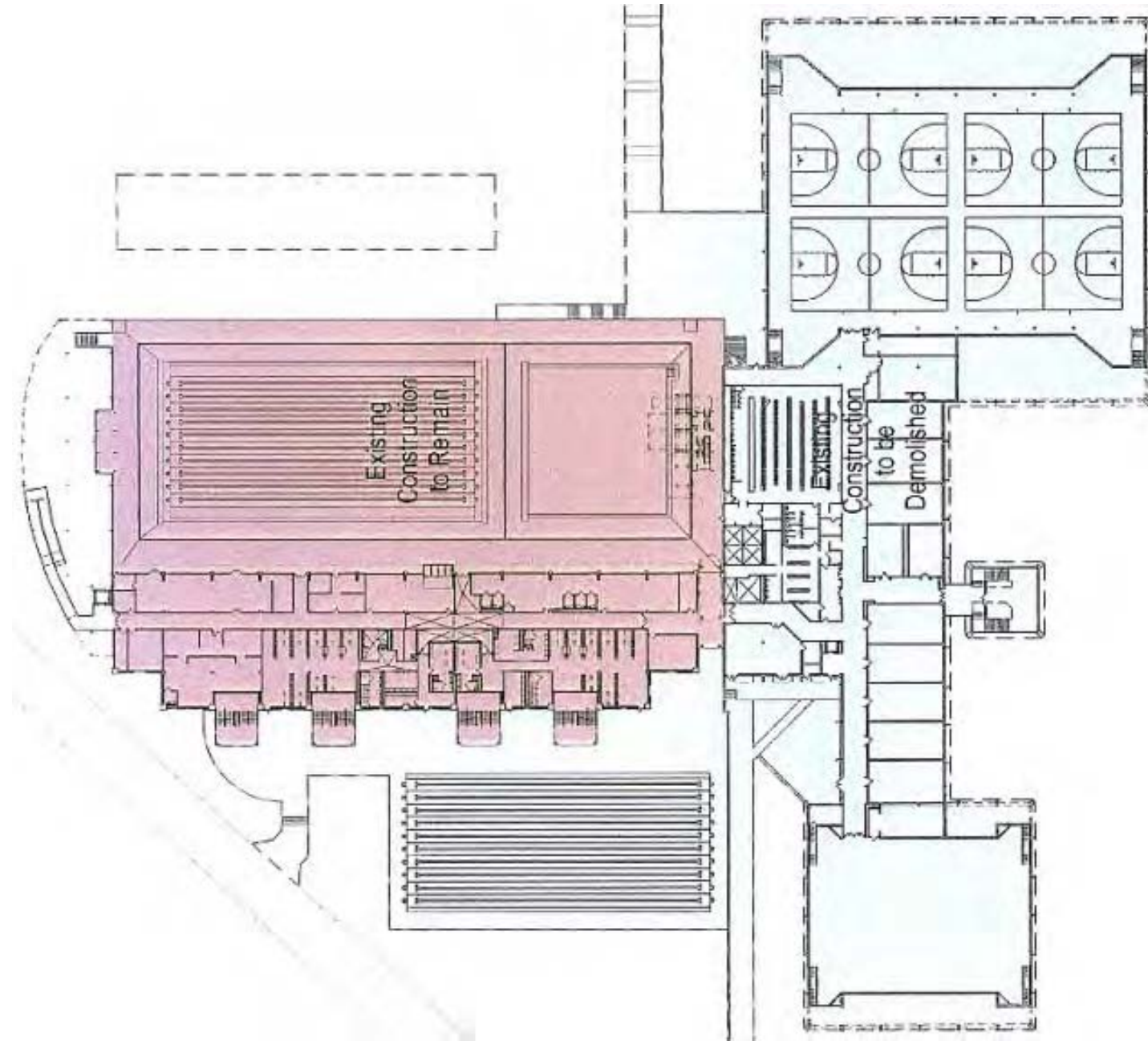
POOL SECTION



RENOVATED POOL

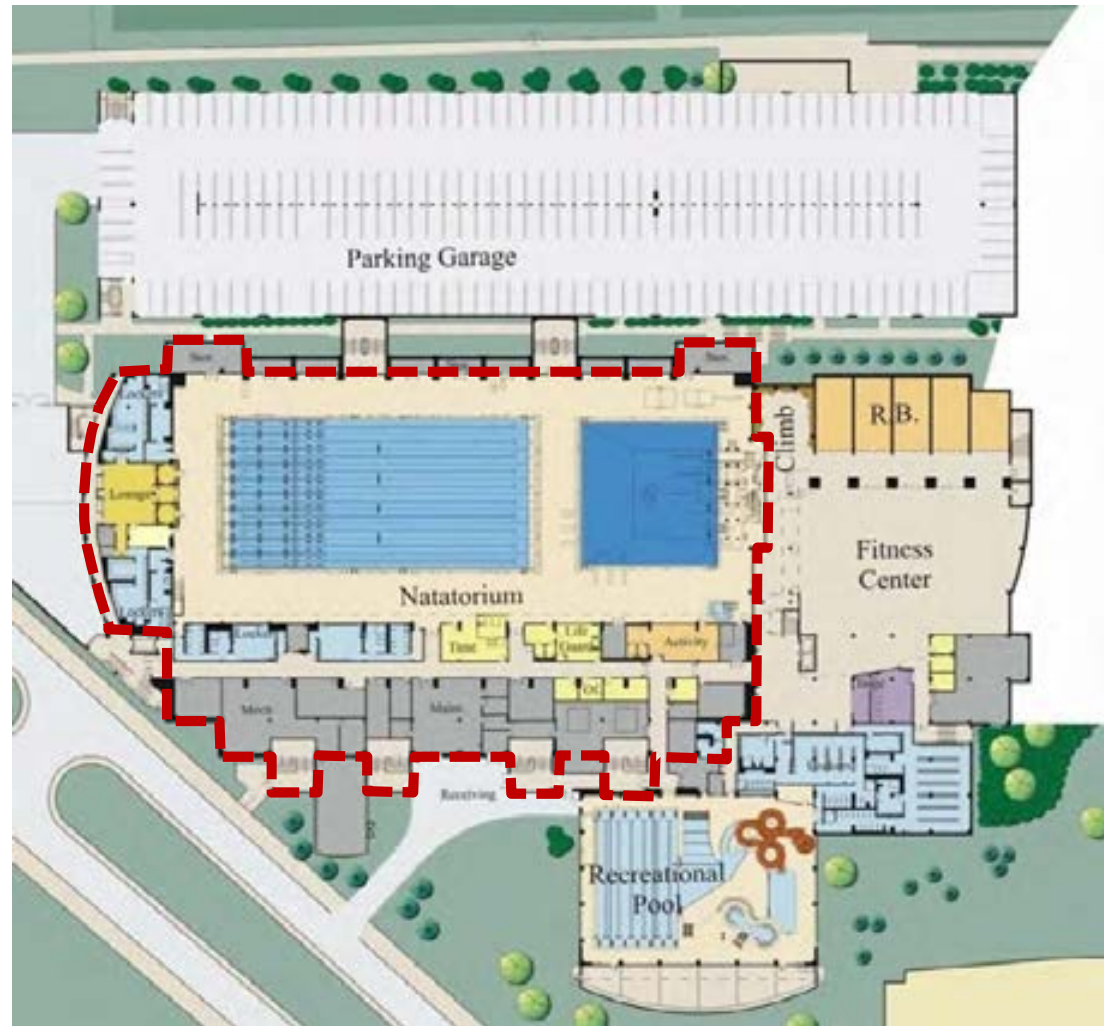


EXISTING PLAN

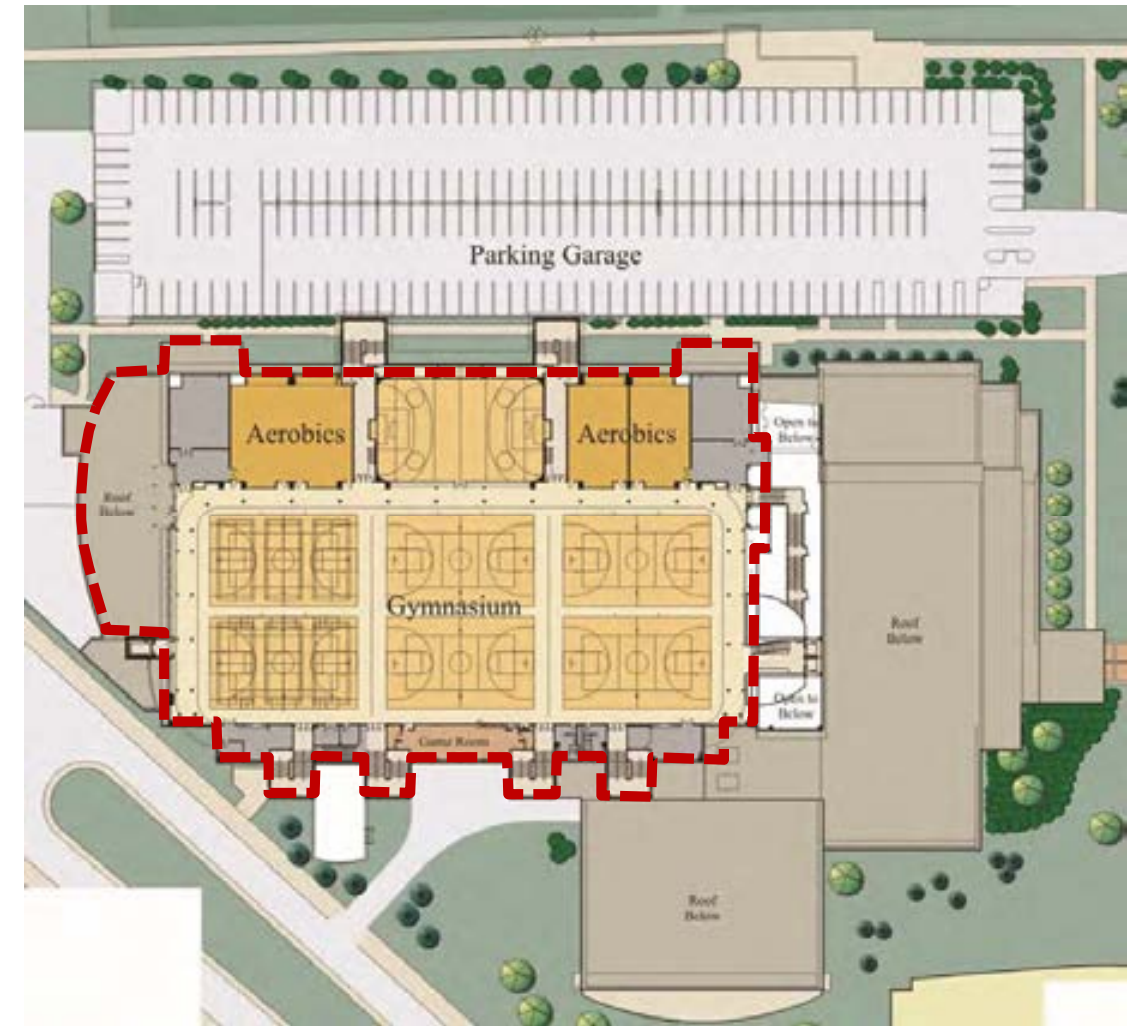


RENOVATION + ADDITION

POOL LEVEL



GYM LEVEL



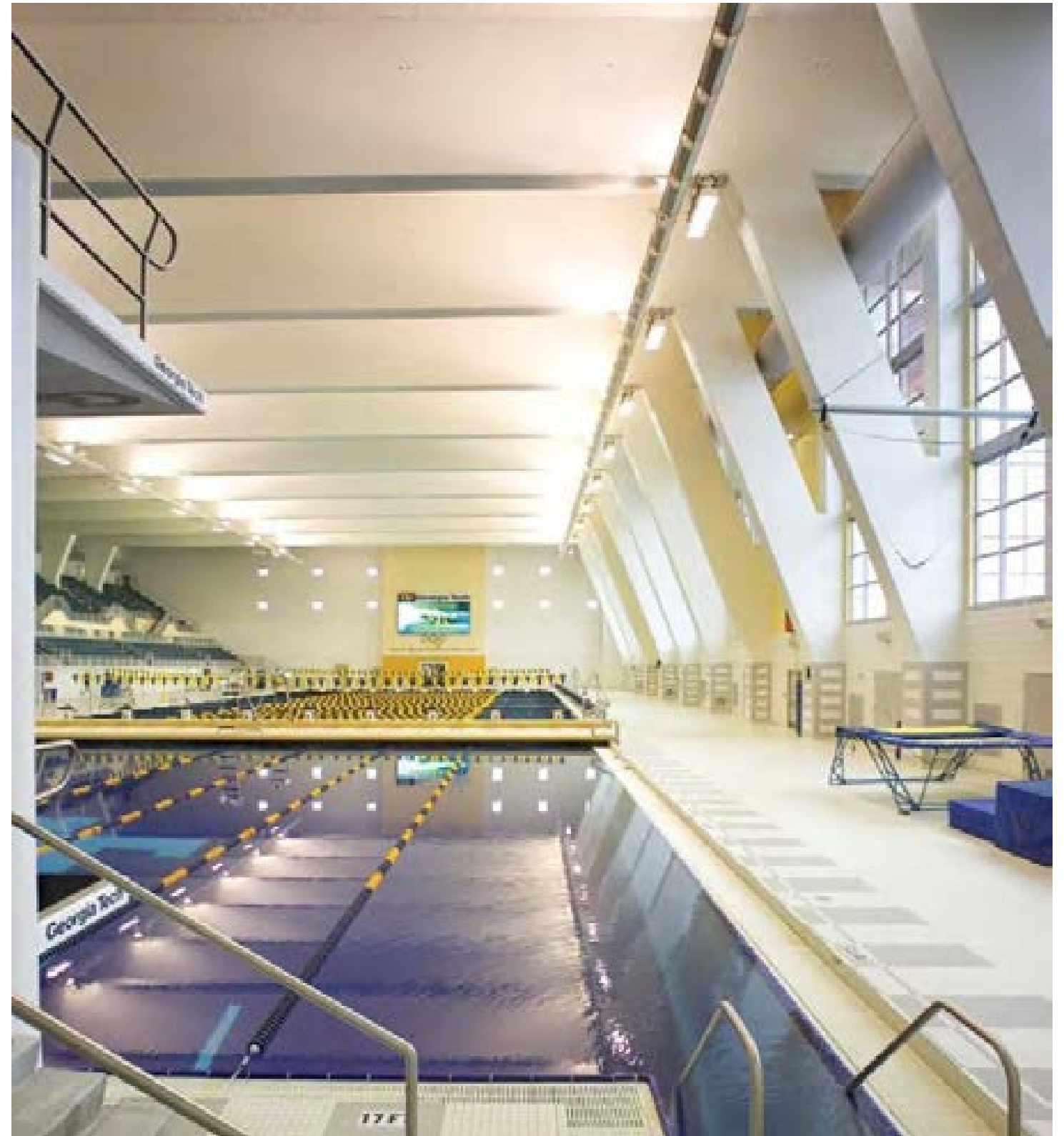
RENOVATION + RETROFIT

GYMNASIUM + TRACK



RENOVATION + RETROFIT

OLYMPIC POOL

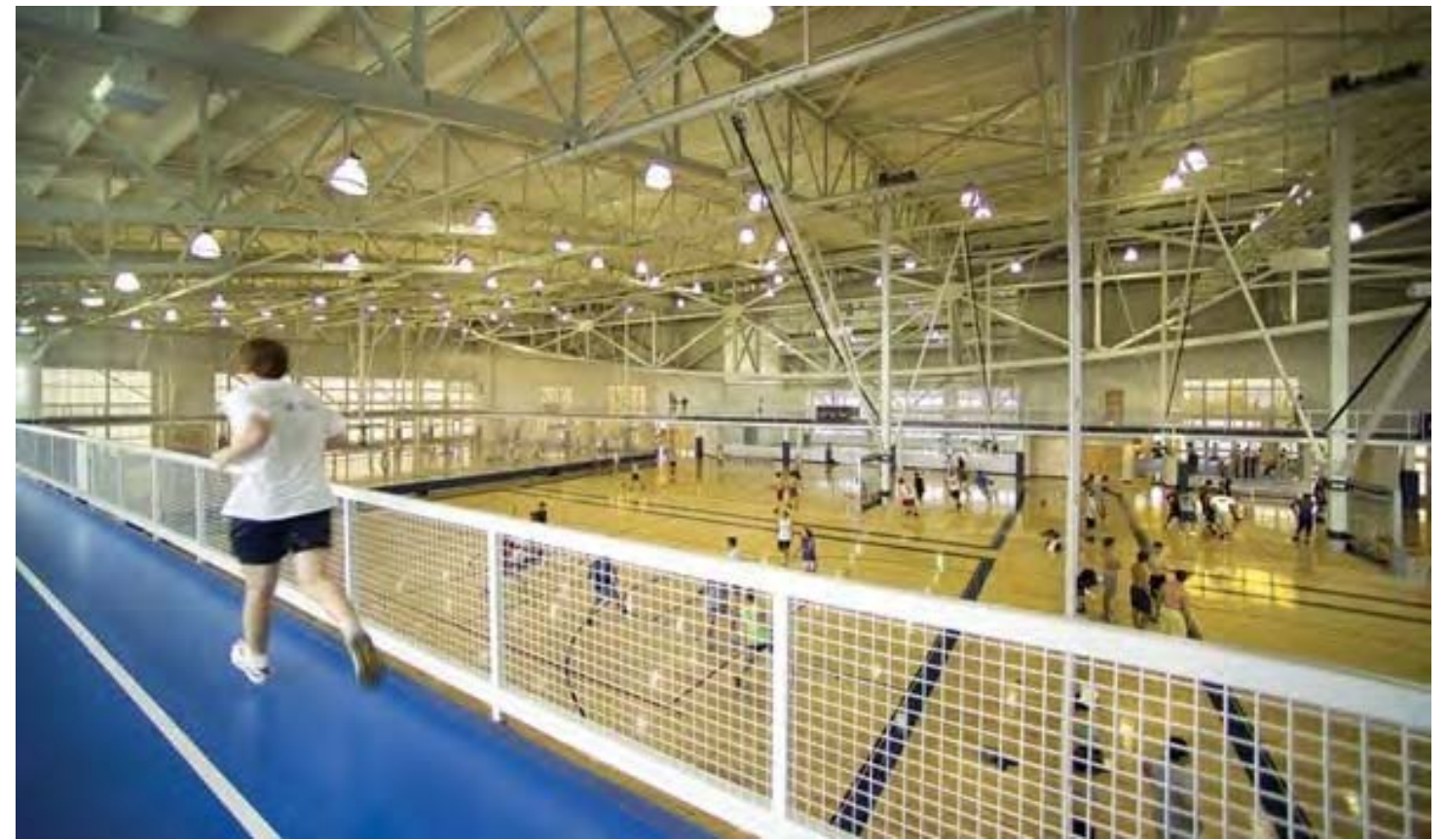


RENOVATION + RETROFIT

OLYMPIC POOL



GYMNASIUM + TRACK



RENOVATION + ADDITION



DENISON UNIVERSITY

50 METER POOL + DIVING TANK

COMMON ENTRY

HALL OF FAME

FITNESS CENTER

LOCKER ROOMS

OFFICES

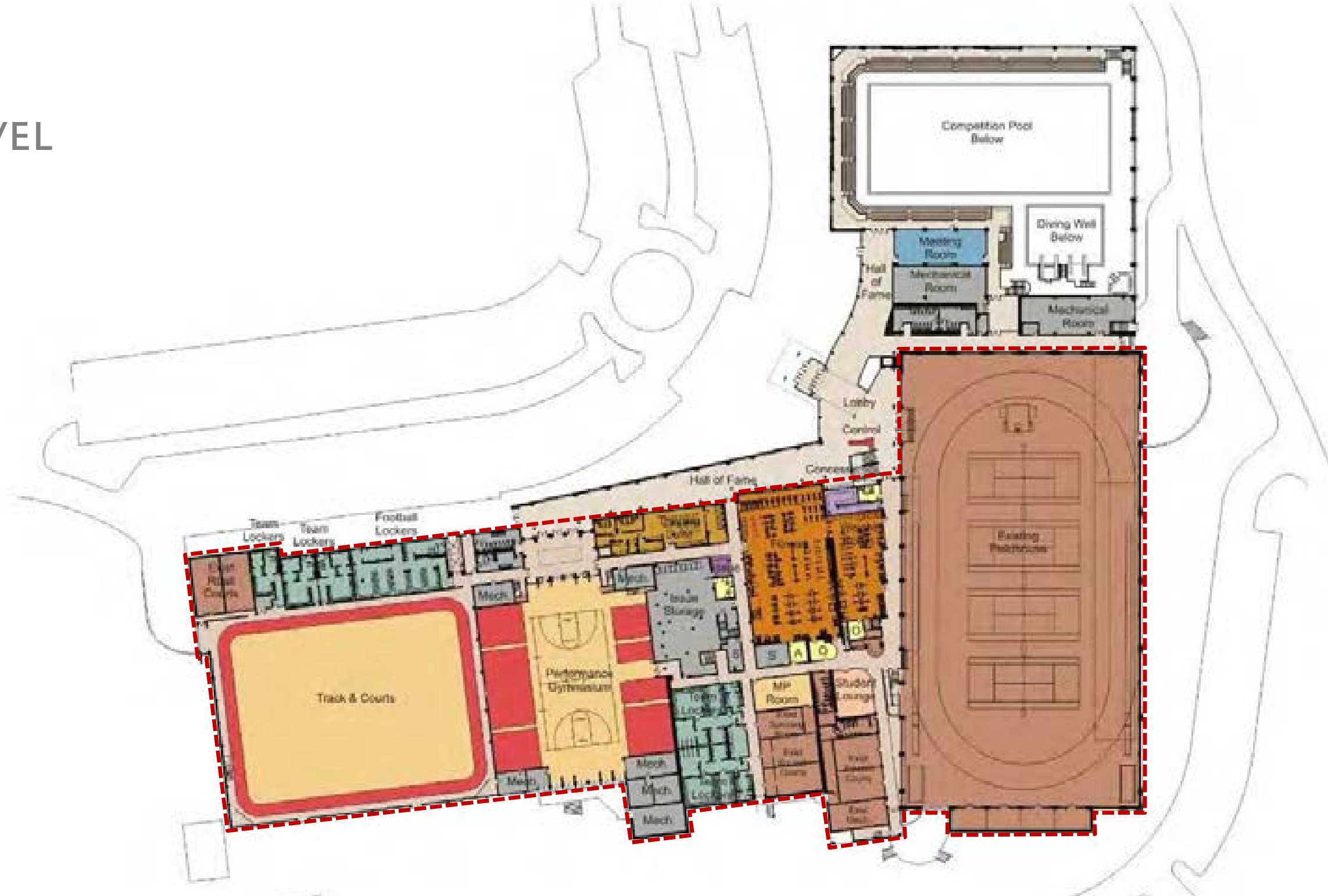
TRAINING ROOM

MEETING SPACE



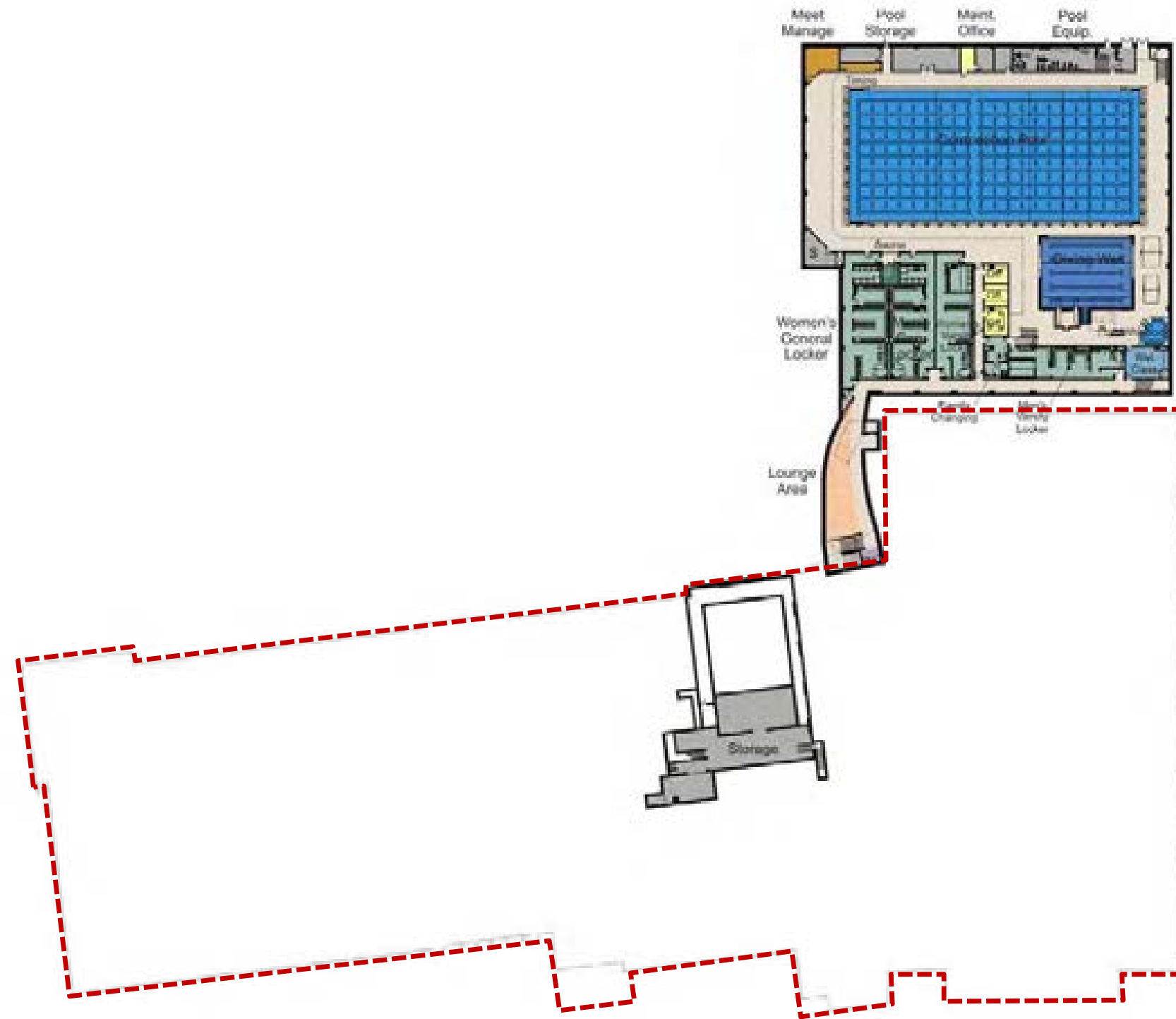
DENISON UNIVERSITY

FIRST LEVEL



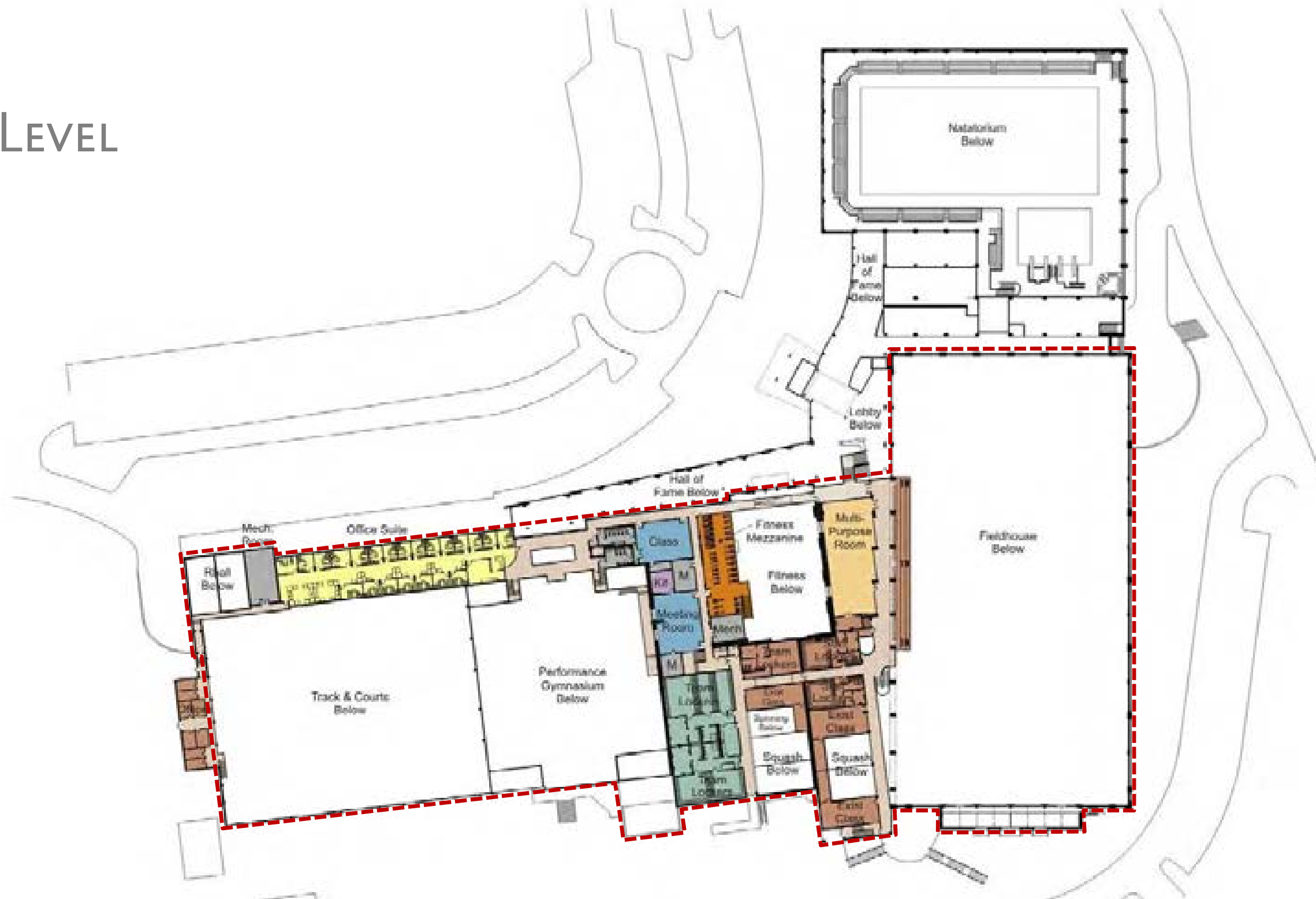
DENISON UNIVERSITY

LOWER LEVEL



DENISON UNIVERSITY

SECOND LEVEL



ADDITION



ADDITION

COMPETITION POOL



DIVING TANK



ADDITION + RENOVATION

EXISTING ENTRY

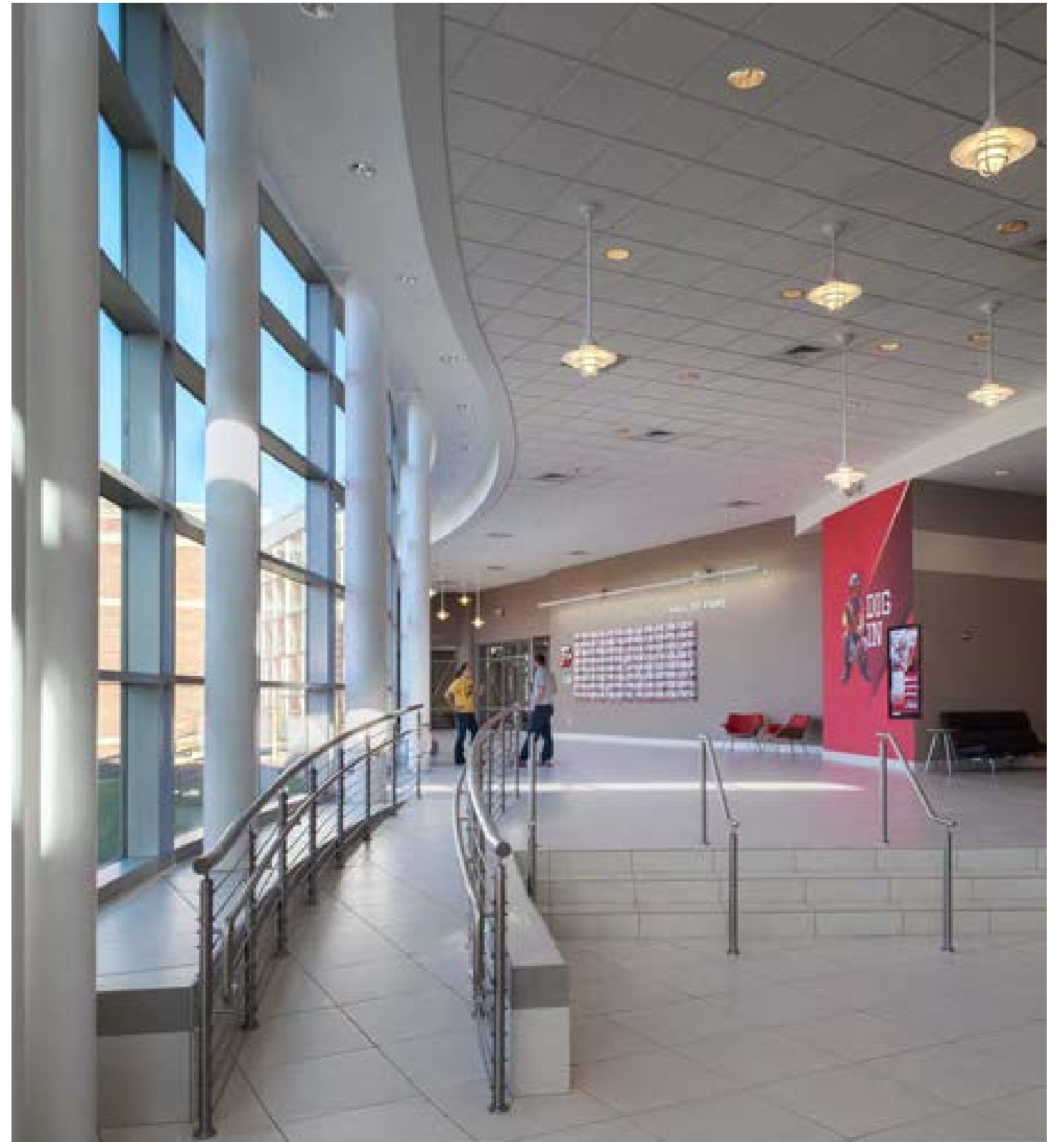


NEW ENTRY



ADDITION

ENTRY + HALL OF FAME



ADDITION

LOBBY



LOBBY



ADDITION

EXISTING EXTERIOR



CONCOURSE



ADAPTIVE REUSE + RETROFIT

EXISTING POOL



FITNESS CENTER



ADAPTIVE REUSE + RETROFIT

EXISTING POOL



FITNESS CENTER



RENOVATION

EXISTING LOBBY



GYM LOBBY



RENOVATION

OFFICE LOBBY



OFFICE SUITE

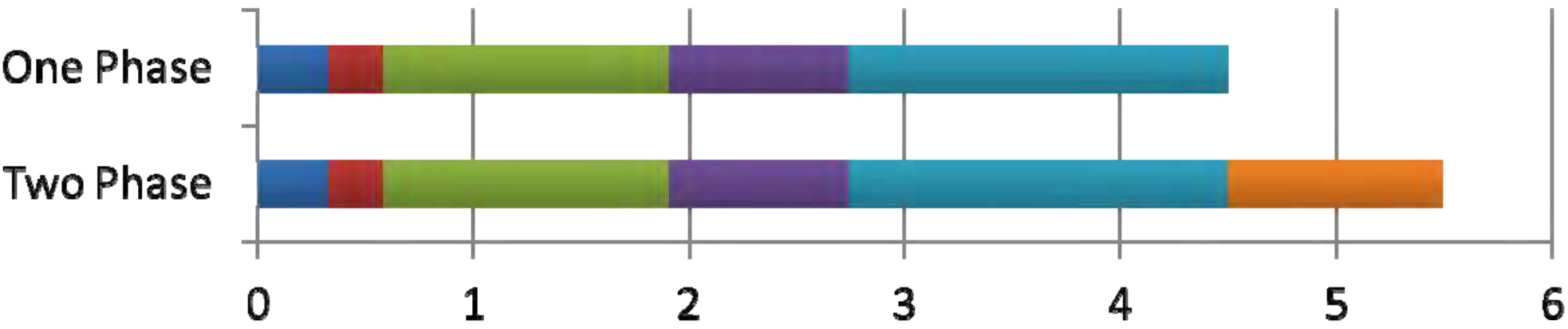


PART III

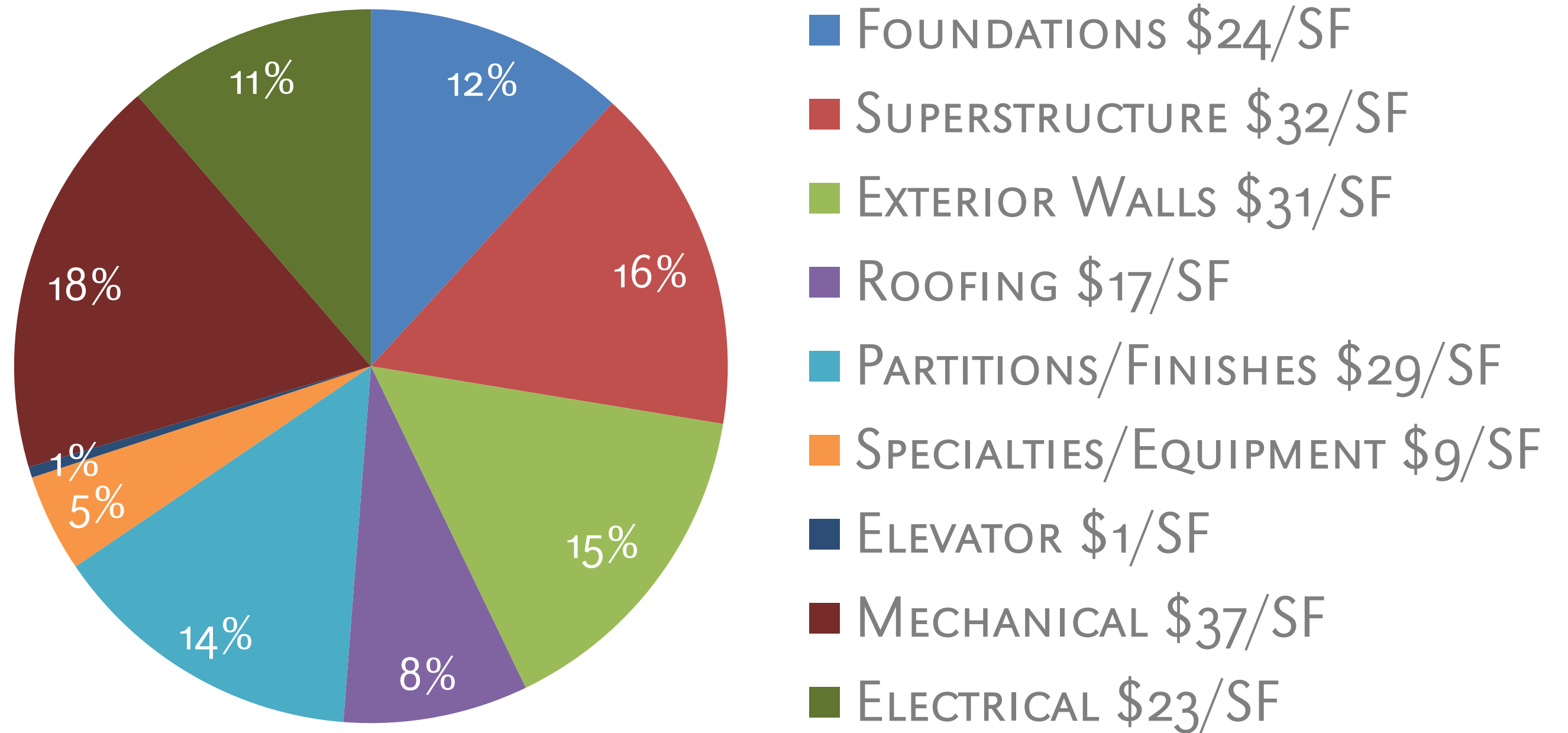
SCHEDULE & COST

RENOVATION TIMELINE

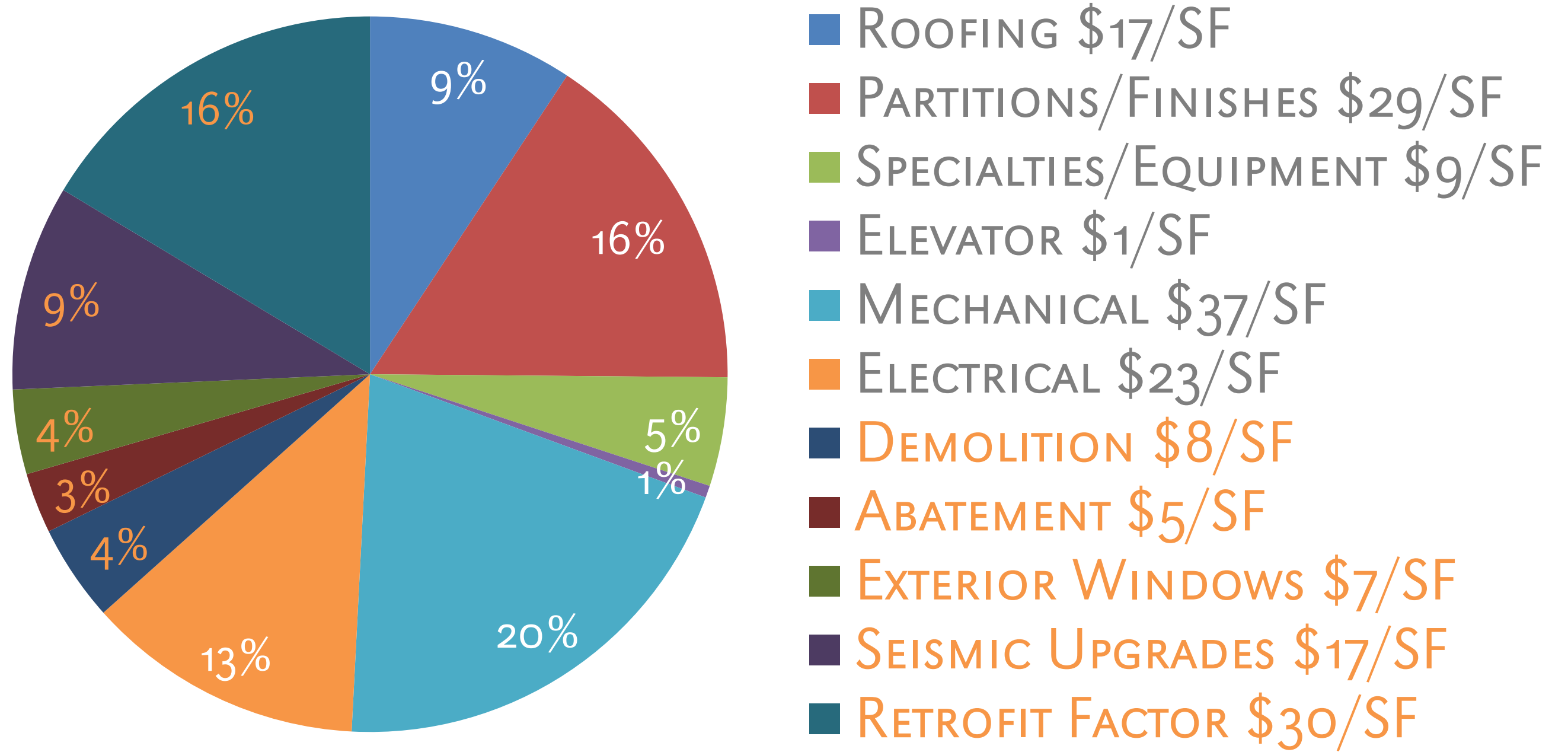
MASTER PLAN	3 – 4 MONTHS
PROGRAMMING	2 – 3 MONTHS
FUNDRAISING	3 – 30 MONTHS
BASIC SERVICES (DESIGN)	8 – 12 MONTHS
CONSTRUCTION	12 – 30 MONTHS
PHASING	9 – 15 MONTHS



CONSTRUCTION COST – NEW (\$185 – \$265/SF)



CONSTRUCTION COST – RENOVATION (\$140 – \$225/SF)

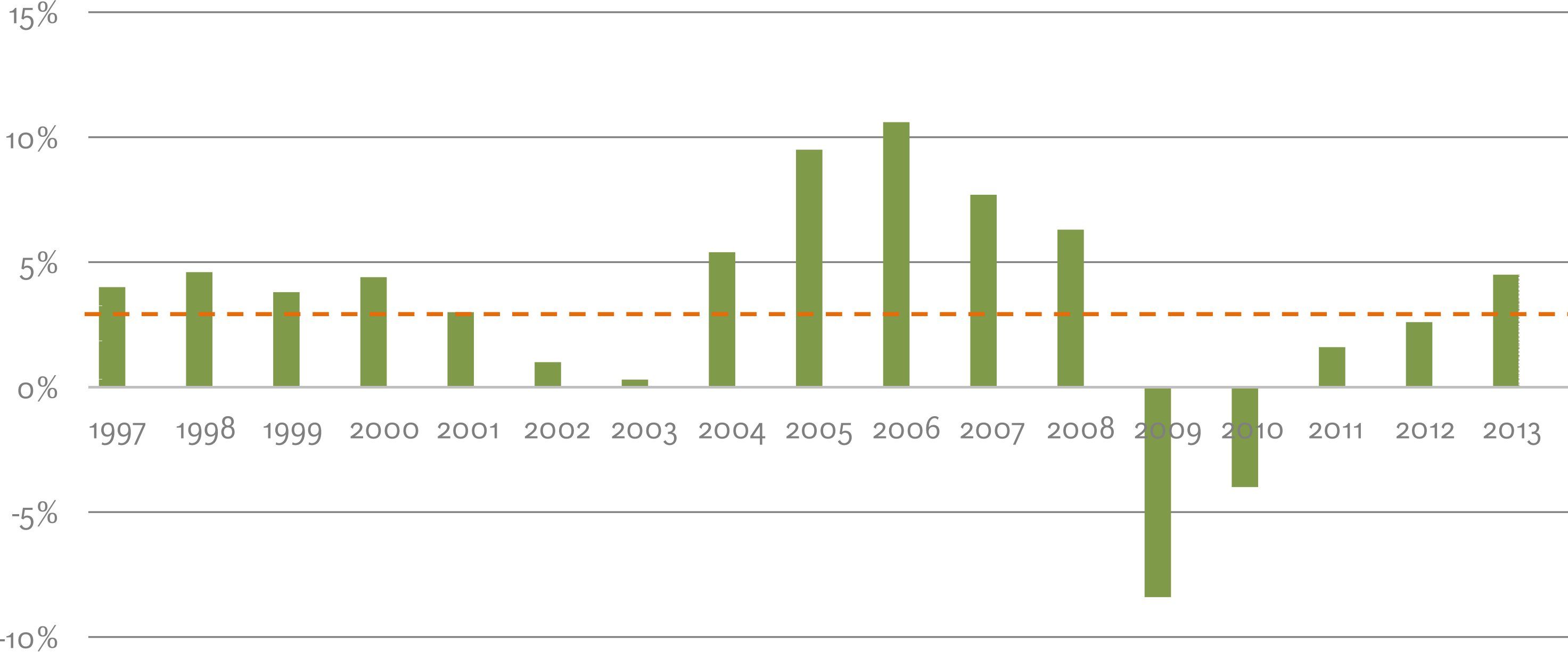


RENOVATION COSTS

GYM RENOVATION		14,000 SF
ITEM	COST	
Demolition	\$70,000	
Abatement	\$56,000	
Floor	\$140,000	
Wall Finish	\$28,000	
Ceiling Finish	\$28,000	
Doors/Windows	\$168,000	
Bleachers (2,000)	\$300,000	
Athletic Equipment	\$112,000	
Mechanical	\$518,000	
Electrical	\$322,000	
Retrofit	\$140,000	
GC OH & P	\$275,000	
Total (\$154/SF)	\$2,157,000	



RENOVATION COST



RENOVATION COST

PROJECT	COMPLETED	TOTAL AREA	CONSTRUCTION	UNIT COST
University of Mount Union	2009	140,543 SF	\$16,747,115	\$119/SF
Denison University	2010	121,210 SF	\$35,681,529	\$317/SF
Colorado State University	2010	175,343 SF	\$33,648,952	\$212/SF
Georgia Tech	2004	300,659 SF	\$54,685,091	\$210/SF
Earlham College	1999	106,000 SF	\$19,511,159	\$201/SF
Marietta College	2003	140,557 SF	\$27,407,981	\$210/SF
University of Missouri	2005	283,579 SF	\$53,371,739	\$201/SF
Georgia Southern University	2007	144,420 SF	\$33,047,348	\$298/SF

NEW CONSTRUCTION: \$185/SF - \$265/SF

RENOVATION: \$140/SF - \$225/SF

WHY NOT RENOVATE?

CANNOT SUPPORT FUTURE PROGRAMS

INSURMOUNTABLE CONSTRAINTS

MAJOR STRUCTURAL PROBLEMS

THREAT TO PUBLIC SAFETY

COST PROHIBITIVE

NO HISTORICAL/ARCHITECTURAL VALUE

LOW DONOR INTEREST

OUT OF BALANCE WITH NEW
CONSTRUCTION (2:1 RULE)



SUMMARY

NUMEROUS OPPORTUNITIES EXIST

Renovation/Restoration/Adaptive
Reuse/Retrofit

NOT JUST FOR OLD BUILDINGS

WIDE RANGE IN COST

\$119/SF - \$317/SF

ADDITIONS ARE A KEY COMPONENT

SUCCESS = BALANCE OF NEW & OLD

ONE SIZE DOES NOT FIT ALL



OTHER RESOURCES



UNITED STATES CENSUS BUREAU / DEPARTMENT OF COMMERCE

census.gov



COLLEGE PLANNING & MANAGEMENT

planning4education.com



SOCIETY FOR COLLEGE AND UNIVERSITY PLANNERS

scup.org



TURNER CONSTRUCTION COMPANY

turnerconstruction.com



NATIONAL SPORTING GOODS ASSOCIATION

www.nsga.org

RELATED PRESENTATIONS

FRIDAY, NOVEMBER 22

10:15AM – 11:45AM

The Wellness Center: Not Just a Name on a Building

Fill the Calendar and Coffers – The Complete Park Examined

4:00PM - 5:30PM

Panel: There's No Dress Rehearsal: Avoiding Common Design and Operational Mistakes

SATURDAY, NOVEMBER 23

8:30AM - 10:00AM

LEEDing the Way with Practical Sustainable Design

The Changing World of Sport Surfacing

10:15AM - 11:45AM

“Ask an Expert” Panel Discussion

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DRAMATIC COMEBACK

Successful Reuse of Aged Facilities

