STEAM Classroom Building & Auditorium Study

Florida State University School

Building Study Team

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January 29, 2018

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II. Signature Sheet

In accordance with the provisions of the standard practice, the following signatures have been obtained as evidence of the required university approvals of this facility program.

1. Dr. Stacy Chambers, Executive Director
   Florida State University Schools

   Signature signifies the Executive Director's approval of this facility program.

2. Jann Tucker-Pettway, Board Chair
   Florida State University Schools

   Signature signifies Board Chair's approval of this facility program.

3. Marcy Driscoll, Dean
   College of Education

   Signature signifies the Dean's approval of this facility program.

4. Jon Moyle, Counsel

   Signature signifies Counsel's approval of this facility program.

5. Jennifer Granger, FSUS Business Manager

   Signature signifies the FSUS Business Manager's approval of this facility program.

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6. Michael Barrett
   Associate Vice President and Chief Information Officer
   Information Technology Services (ITS)

7. Dennis Bailey
   Associate Vice President for Facilities

   Signature verifies that this planning document has been developed in accordance with the standard practice for the development of facility programs.

8. John Thrasher
   President

   Signature signifies that President's approval for this facility program.

III. Introduction

A. Project Background and History

Florida State University School (FSU School) was constructed on the Florida State University Campus in 1954. The school was relocated from the Florida State University Campus to its current location within the Southwood Community in the fall of 2001. The current facility was designed and constructed as a design/build project with the Haskell Company serving as project engineers and contractors. The school was designed as a campus plan with separate buildings surrounding a central courtyard connected by covered walks.

FSU School is a K-12 facility with an enrollment of 1,700 students which includes 500 elementary school students, 550 middle school students and 650 high school students. The school site is comprised of 12 buildings totaling about 191,865 GSF and sits on about 51 acres on the southern boundary of the Southwood Community.

B. Project Description

The new Science, Technology, Engineering, Arts and Mathematics (STEAM) building will give FSUS room to alleviate overcrowding, improve facilities in crucial STEAM fields, and allow better communication through a new 750 seat auditorium.

The STEAM building will anchor the southwest corner of campus and provide a central gathering place for FSUS students, University researchers, and the surrounding community. By adding the planned Science, Technology, Engineering, Arts & Mathematics building, Florida State University School has the opportunity to continue their charter and better serve Tallahassee and the State of Florida.

C. Goals and Objectives

FSU School endeavors to meet certain worthy goals with the addition of the auditorium and STEAM classrooms. The following goals and objectives have been identified.

1. Expand Physics and Science courses and provide dedicated classroom/lab space for these courses.
2. Provide Technology Labs for robotics, engineering and expansion of digital/media programming.
3. Provide Medical Science labs to train students for careers in the health care industry.

4. Provide small group learning rooms with versatile and fully integrated technology supporting all STEAM projects where students learn from and support each other.
5. Provide training and encouragement in coding, math, science and engineering coursework.
6. Provide a Multi-Media Studio for digital media production for the creation of documentaries and video broadcast.
7. Provide flexible classroom space to accommodate diverse disciplines.
8. Design all labs based on the same module enabling any space to function as a teaching lab, a research lab or a classroom as needed.
9. Provide an auditorium space dedicated to assemblies, student performances, celebrations and concerts.
10. Provide an auditorium with a working stage for production of plays and performing arts.
11. Provide an auditorium that can be utilized for professional development symposiums and for activities generated by the surrounding community.
12. Provide an auditorium with projection equipment and technology for virtual sets and displays.

D. Design Objectives

The design objectives outlined below provide design criteria to be incorporated into the facility design to meet the specified project goals and objectives:

STEAM

Design a facility that incorporates the STEAM educational framework for teaching across disciplines into the educational spaces.

Create Maker Spaces that provide training and encouragement in coding, math, science and engineering coursework where students can take an active, hands-on approach to their education.

Spaces should be flexible and easily adaptable for multiple engineering and technology driven curriculum.

Incorporate writing walls into Maker Spaces so that reading the writing on the wall becomes just another step in the creation process. Moveable/sliding writing walls located between the Maker Spaces provides the ability to slide apart to create one large classroom for co-teaching.

Create a flexible learning environment utilizing flexible, moveable furniture encouraging students to interact. This will allow students to study and collaborate as effectively as possible.

Create Nest Maker Spaces that are equipped with the tools and materials necessary for building.

Provide natural lighting in all Maker Spaces with access to outdoor learning spaces and green space.

Create open collaboration areas and café spaces known as “learning landscapes” that provide a place for students to remain on campus beyond class time.

Provide access to the internet and the ability to use wireless devices throughout the building.

Create places for academic partnership with industry to occur. The externally focused spaces enable students to participate in research internships and externships as they gain valuable experience and explore potential career opportunities.

Provide projection walls and interactive monitors facilitating the interaction of students with the curriculum being presented.

Auditorium

Create auditorium space dedicated to performing arts, concerts and presentations with fixed seating, working stage, stage lighting and acoustically designed for such activities.

Auditorium should be located adjacent to existing parking and on the edge of campus for easy access by the community for after school activities.

Provide and acoustical separation between the auditorium and adjacent STEAM Classrooms/Labs.

IV. Site Analysis

A. General

The Florida State University School is located in the southern portion of the Southwood Community. Its campus lies on 50.88 acres at the southeast corner of Shumard Oak Blvd. and Four Oaks Blvd. The school is comprised of a complex of educational administrative and recreational facilities. Site Analysis Maps are provided in Section VIII, Site Utility Maps for further reference.

Southwood PUD/DRI Educational Allocation

On June 14, 2014, both commissions of City of Tallahassee and Leon County executed the sixth extension of the Southwood DRI Development Order (DO) with a new expiration date of June 14, 2028. Identified within the current DO is the allocation of gross square feet for each of the three educational campuses within the current Southwood Development. The table below summarizes the original, used and remaining allocation of educational space for the each of these educational campuses.

Land Use	Original Allocation (GSF)	Used Allocation (GSF)	Surplus/ Deficient (GSF)
John Paul Catholic School	79,000	53,000	26,000
FSU School	234,000	191,865	42,135
Public K-8 School (Conley Elementary)	90,000	96,381	(6,381)
Totals	403,000	356,645	46,355

The above table identifies that the FSU School has the ability to expand its educational campus by 42,135 gross square feet. However upon completion of the proposed performing arts facility, the remaining allocation for the FSU School will be 8,535 gsf.

Site Characteristics

The preferred site for the Auditorium and Music Classroom Building is at the southwest corner of the existing school campus and is bordered by Four Oaks Boulevard and School House Road. The site plan proposes one additional driveway connection from School House Road for direct ingress/egress to the building for after hour use with an internal connection to the existing elementary entrance which will provide access to additional on-site parking. The topography or grade change at this location is relatively flat since the present use of the space is for recreational activities and the site development plans will ensure that positive drainage will be provided to ensure that stormwater runoff will be captured and conveyed to the existing collection system. Finally, additional

sidewalks will be provided to ensure internal circulation is provided from this building to the remaining campus.

On-Site Drainage and Stormwater Management

Presently, the FSU School campus provides an on-site drainage collection system that captures and conveys the stormwater to an off-site stormwater management facility that is owned and operated by Southwood Development. This existing stormwater management facility is permitted as SB11B and has a current operating permit number OP883 and the stormwater capacity accounting record has reserved 182,220 square feet of future impervious area for the FSU School campus. Therefore the existing stormwater management facility can accommodate the proposed Auditorium and Music Classroom Building and associated parking improvements. However, the existing on-site drainage collection system has not been designed to convey the increase in stormwater runoff and portions of the existing stormwater drain collection system will have to be upgraded as part of this project.

Domestic Water and Fire Suppression

A four inch potable watermain and a six inch firemain exist within the school campus. These exiting mains are supplied water by an existing twelve-inch watermain located within the right-of-way of Shumard Oak Boulevard. Based upon the final potable and needed fire flow demands these existing meters and mains may need to be upgraded to accommodate the increased flow and pressure requirements. As confirmed by the City of Tallahassee there is no existing watermain located in the existing right-of-way of School House therefore extensions for potable water and fire will have to be accomplished internally.

Sanitary Sewer

However, the City of Tallahassee does provide an existing eight inch gravity main which is located within the existing right-of-way of Four Oaks Boulevard and School House Road. Either of these sewer mains will be able to provide the required sewer connection for the proposed Auditorium and Music Classroom Building.

Traffic

Currently vehicular access to the FSU School is located off School House Road on the south side of the campus. You can enter the site from two driveways that serve the school and are connected by a parking lot. A third driveway serves the athletic fields. During the morning drop-off and afternoon pick-up, traffic backs up to Four Oaks Blvd. limiting access to the school. Adding the additional classroom space and auditorium will only exacerbate the problem. It is recommended that a traffic study be undertaken in conjunction with the city and county to review vehicular site circulation and possibly add additional driveway cuts off Four Oaks Blvd.

V. Program Area

The information contained in this section of the document relates to the specific spatial requirements for the construction of the proposed expansion. This information conveys the Building Committee's attempt to describe the function, size and spatial relationship of the spaces programmed for construction of the expansion within the school boundaries.

Space Summaries located in Section VI lists the various areas or spaces required, the number of spaces, the programmed square footage and the total net assignable square footage figures. The total net assignable space was projected into gross square footage for the project in the top section of the Budget Summary table.

The Space Summary represents only a partial image of this project's spatial needs. While it is critical to know the number, size and types of space, it is equally important to understand spatial relationships between the spaces. A plan diagram has been provided illustrating these spatial relationships. These have been provided to assist the User with understanding the conceptual content of the spaces and how they operate and to assist the design professional with a general understanding of the organization of space. The relationship diagrams orient the spaces as they relate to primary and secondary adjacencies of related spaces. The relationship diagrams relate to the "potential floor location" of the Space Summary Sheet.

It is expected that the design professional shall become familiar with these spatial requirements and descriptions and that, prior to the commencement of the design phase, the design professional shall have the opportunity to discuss these requirements with the Building Committee to insure a mutual understanding. All questions relating to the spaces programmed for this project shall be addressed to the Building Committee.

The following is a brief description of the spaces that are programmed for inclusion in the project.

Auditorium

A. **Program Philosophy**

The auditorium functions as a performing and instructional area for the student body. It also provides for music and theatre curriculum, large group instruction, testing and extracurricular activities for the entire school. In addition, it contributes to the community's sense of values from a practical and aesthetic point of view.

B. **Program Goals**

1. The auditorium is planned, arranged, equipped and sufficiently flexible to facilitate the achievement of curriculum objectives while providing for the safety, health and comfort of all its occupants.

2. The auditorium provides for music and dance and theatrical performances and large group instruction and provides areas for display of student art.

3. The auditorium provides adequate storage space and centralized services for facilities and furnishing for a seating capacity of a minimum of 750 occupants.

4. The auditorium makes a desirable contribution to the total educational program and the learning experiences of all students and interested community members. It also provides opportunities for students to learn proper audience behavior when participating in large groups.

5. The auditorium provides technology for media presentations.

C. **Program Activities**

1. Theatrical productions
2. Assembly programs
3. Musical productions
4. Media presentation and production
5. Concerts (choral, band, orchestra)
6. Dance
7. Large group meetings
8. Testing
9. Theatre curriculum instruction
10. Stagecraft
11. Academic conferences/Professional Development Symposiums
12. Guest lecturers
13. Art display
14. Class assemblies

D. **Program Spaces**

The auditorium is divided into three areas: the entrance lobby, the seating space and the stage. Descriptions of those spaces are listed below:

1. Entrance Lobby (1,430 n.s.f.)

   This space serves as the main entrance into the auditorium and provides accessibility to the seating area as well as the ticket booth, concessions, control booth and restroom facilities.

2. Auditorium Seating (6,000 n.s.f.)

   This space contains seating for the audience attending the event being held in the auditorium. This space will have a sloped floor to improve sightlines and a large volume proper for acoustics.

3. Stage & Support Spaces (2,915 n.s.f.)

   This space is the performing area for a variety of activities. The stage will be designed with a fly loft to allow for rigging lights, curtains and scenery allowing for theatrical performances as well as choral concerts. The stage is surrounded by dressing rooms, storage rooms and loading dock which support the activities of the stage.

Science Labs

A. **Program Philosophy**

In order to empower students through technology it is essential to provide hands-on learning activities as well as opportunities for interaction, discussion, critical analysis, comparison, goal setting, experimentation and practical application. In designing a Science Tech Lab it is important to offer collaborative teaching and cross-discipline teaming which focuses on science through technology.

B. **Program Goals**

1. To provide independent student research stations as well as to offer interdisciplinary team teaching between science and technology.

2. Involve students in integrated learning experiences which make it possible to access technological tools to reinforce concepts with concrete applications.

C. **Program Activities**

Activity driven lab activities and interdisciplinary units will provide students with exposure to the use and application of technological tools. Based on science orientated topics, the student modules will cover curriculum concepts interlinked with language arts, math, technology and

computer literacy skills. Students will be introduced to careers, career skills and real-life applications. In addition, students will learn the basics of electronic communications and the best use of media productions in research presentations. Physics – based robotics courses are partnered with FSU's Physics Program.

D. **Program Spaces**

The Science Lab is a large open flexible learning environment utilizing flexible, moveable furniture encouraging students to interact. Listed below is the lab space and supporting areas:

Lab	1,275 sf	
Office	120 sf	
Storage	100 sf	
Project Storage	150 sf	
Related Instruction	340 sf	(½ total area)
Total NSF	1,985 sf	

Art Lab

A. **Program Philosophy**

The Visual, Performing and Communication Arts program provides unique opportunities for the committed and talented student who has a serious interest in the Arts. In-depth study of the Arts develops conceptual and technical skills of artistic expression and bring to fruition the student's individual interpretations of the world. The Arts training is provided by highly trained art teachers. Students participate in extensive highly specialized courses in dance, music, theater, visual arts and communication arts as well as a full academic program.

B. **Program Goals**

The primary goal of art education is to enable children to develop their minds and intellectual capabilities using all forms of creative intelligence as means for achieving this goal. The expression of thoughts and feelings take many forms. Art, music, dance and theater communicate thoughts and feelings through visual forms, sounds, and movements.

C. **Program Activities**

For children to develop their mental capabilities and realize their fullest potential, they need to be exposed to many kinds of knowledge, to many ways of knowing their world, and expressing their thoughts. Through

experiences in art, music, dance and theater, child learn to express themselves in terms of their own ideas and feelings. All the fine arts – performing and visual – provide knowledge about the work, its cultures, and ways of experiencing them that contribute to an understanding that is unique.

D. **Program Spaces**

The Art classroom is a large open space with flexible furnishings allowing the room to be reconfigured for a variety of activities including dance, music, theater, visual arts and communication art. Listed below is the lab space and supporting areas:

Lab	1,590 sf
Office	120 sf
Storage	100 sf
Project Storage	150 sf
Total NSF	1,960 sf

Technology Education Labs

A. **Program Philosophy**

Principles of Technology is a high school-level course in engineering and robotics. The course exposes students to some of the major concepts that they will encounter in a postsecondary engineering course of study. Students will learn the basics of circuits, Arduino programming, engineering, and design in this project based course. As these skills are developed, students will be able to create and program increasingly complex and useful devices.

B. **Program Goals**

To develop the ability to apply learned knowledge and skills to solve problems involving basic medical technologies, agricultural and related biotechnologies, energy and power technologies, information and communication technologies, transportation technologies, manufacturing technologies, and construction technologies. Emphasis is placed on the study of the human-designed world. Additional understanding of the nature of technology, technology and society, design, and the abilities needed to succeed in a technological world are addressed.

C. **Program Activities**

Students will explore and develop a deep understanding of the characteristics and scope of technology and the influence on history, along with the relationships and connections between technology and other fields of study. Students will develop an understanding of the attributes of design and develop skills by using the design process to solve technological problems. Students will develop a positive attitude about safety and skills through research, problem solving, teaching, and working collaboratively. Physics – based robotics courses are partnered with FSU's Physics Program.

D. **Program Spaces**

The Technology Lab is a large open flexible learning environment utilizing flexible, moveable furniture encouraging students to interact. Listed below is the lab space and supporting areas:

Lab	1,625 sf	
Office	120 sf	
Storage	100 sf	
Project Storage	150 sf	
Related Instruction	340 sf	(½ total area)
Total NSF	2,335 sf	

Engineering Education Lab

A. **Program Philosophy**

Engineering Education is a broad-based survey course to help students understand engineering technology and identify career possibilities. The course provides an overview of engineering and engineering technology. Students develop problem-solving skills by tackling real-world engineering problems. Through theory and practical hands-on experiences, students address the emerging social and political consequences of technological change.

B. **Program Goals**

To develop an understanding of the cultural, social, economic, environmental, and political effects of technology; the role of society in the development and use of technology; the influence of technology and history. Students use engineering design; troubleshooting, research & development, invention and innovation, and experimentation in problem solving while learning to use and maintain technological systems.

C. **Program Activities**

The Engineering Education is a broad specialized and applied engineering education. The Engineering Education will provide training for manufacturing firms, product improvement, design and construction, and government agencies applying engineering principles and technical skills.

D. **Program Spaces**

The Engineering Lab is a large open flexible learning environment utilizing flexible, moveable furniture encouraging students to interact. Listed below is the lab space and supporting areas:

Lab	1,000 sf	
Office	120 sf	
Storage	100 sf	
Project Storage	150 sf	
Related Instruction	340 sf	(½ total area)
Total NSF	1,710 sf	

Health Education Labs

A. **Program Philosophy**

The Health Education Program is designed to increase interest in the health sciences for young people interested in careers in medicine and biomedical research, and to mentor and prepare them to successfully compete and the highest levels of college and post-graduate studies.

B. **Program Goals**

The mission of this program is to increase opportunities in Medicine and Biomedical Sciences for students. Advanced simulations and practical applications are required components of the curriculum, in addition to field trips to FSU College of Medicine.

C. **Program Activities**

Health sciences programs include experimental learning that is directly linked to current medical, health, biomedical and experimental fields. Students will use flexible classroom space to work with imaging stations, 3D printers, conduct virtual and classical lab work. Outdoor learning space will support student led, innovative research and coursework.

D. **Program Spaces**

The Health Education Lab is a large open flexible learning environment utilizing flexible, moveable furniture encouraging students to interact. Listed below is the lab space and supporting areas:

Lab	1,400 sf	
Office	120 sf	
Storage	100 sf	
Project Storage	150 sf	
Related Instruction	340 sf	(½ total area)
Total NSF	2,110 sf	

Media Production Lab

A. **Program Philosophy**

The Media Production Technology program is dedicated to providing quality education in the organization and dissemination of ideas through television and film production.

B. **Program Goals**

Media Production students learn the foundation skills of shooting digital video, recording sound and using lighting for dramatic effect. Alongside these traditional elements, students also learn to use contemporary post production software. These tools, combined with a theoretical background in visual storytelling prepare students for work in industries ranging from film and television, sports media, local production studios and emerging jobs related to streaming video and on-line productions. Students are working with FSU's National High Magnetic Field Lab and M.I.T.'s Woods Hole Oceanographic Institute to create a National Geographic styled documentary on oil spills.

C. **Program Activities**

Students are taught in professional broadcast studios with high quality equipment. Students benefit by the use of recording studios, remote cameras, video recorders, video switching and editing equipment, and comprehensive computer graphics to complete academic and extracurricular projects. Students are prepared to function as members of a technical team by participating in activities that simulate the conditions found in television and production studios as well as on-location events.

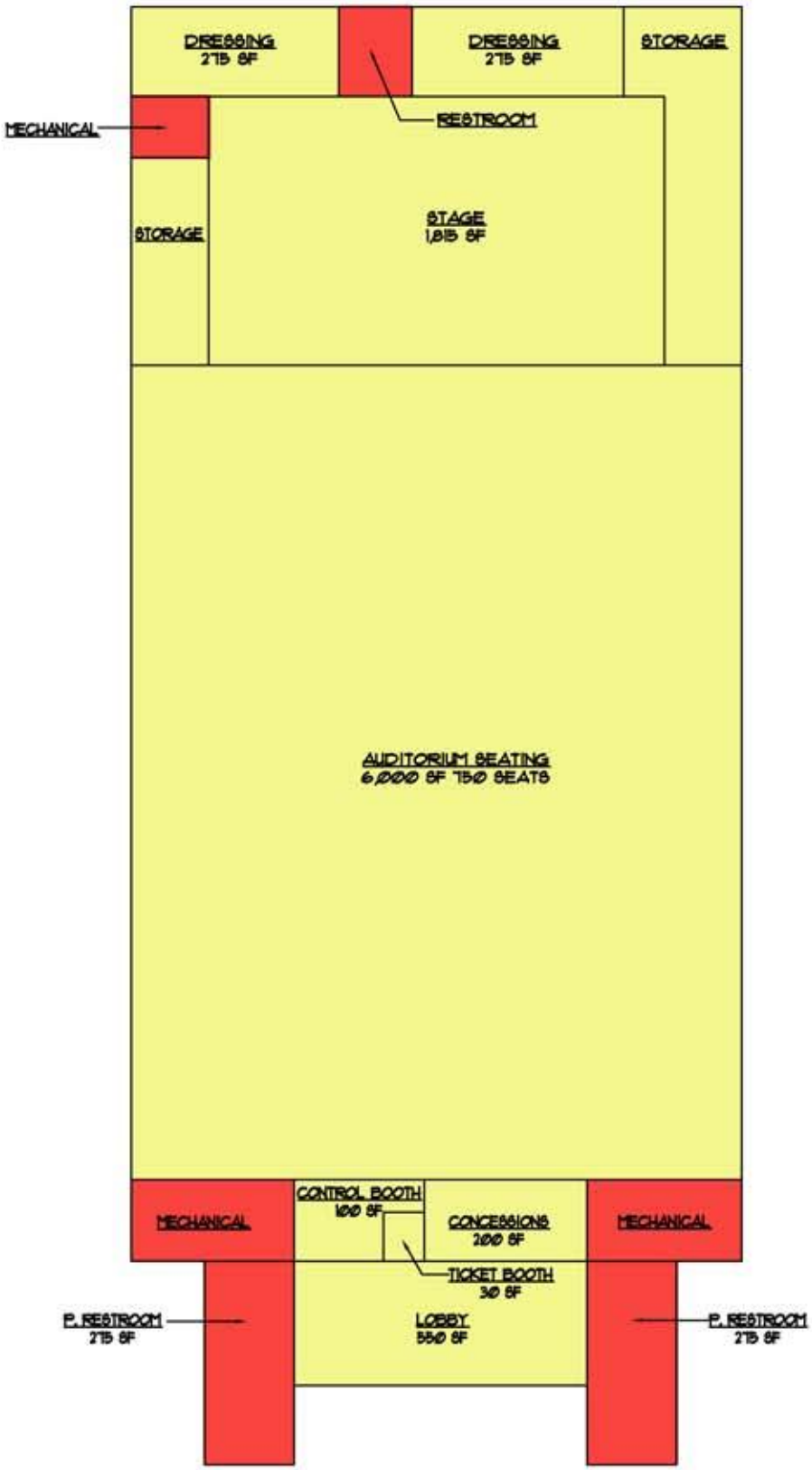
D. **Program Spaces**

The Media Production Lab is a large open flexible learning environment utilizing flexible, moveable furniture encouraging students to interact. Listed below is the lab space and supporting areas:

TV/ Recording Studio	660 sf
TV/ Recording Control Room	340 sf
Media Production Lab	1,190 sf
Office	120 sf
Storage	100 sf
Project Storage	150 sf
Technology Resource Center	800 sf
Total NSF	3,360 sf

VI. SPACE SUMMARY - AUDITORIUM

Space Number	FISH Code	Space Name	N.A.S.F.	No. of Spaces	Total Area	Notes
		GENERAL EDUCATION SPACE (N-12)				
		Subtotal General Education Space			**0**	
		AUXILIARY SPACE (N-PS)				
1	360	Auditorum Seating (750 seats)	6,000	1	6,000	8 nsf per occupant
2	363	Stage	1,815	1	1,815	
3	364	Storage	550	1	550	
4	365	Dressing - Male	275	1	275	5 nsf per occupant
5	366	Dressing - Female	275	1	275	5 nsf per occupant
6	367	Control Booth	100	1	100	
7	370	Lobby	550	1	550	10 nsf per occupant
8	371	Concessions	200	1	200	
9	371	Ticket Booth	30	1	30	
		Subtotal Auxiliary Space			**9,795**	
		RELATED SPACES				
10	815	Student Restrooms - Male	550	1	550	10 nsf per occupant
11	816	Student Restrooms - Female	550	1	550	10 nsf per occupant
12	822	Public Restrooms - Male	275	1	275	5 nsf per occupant
13	823	Public Restrooms - Female	275	1	275	5 nsf per occupant
		Subtotal Related Space			**1,650**	
		SUBTOTAL NSF			**11,445**	
		6% FOR MECHANICAL			**687**	
		TOTAL NSF			**12,132**	
		30% NET / GROSS CONVERSION			**3,640**	
		TOTAL GSF			**15,771**	

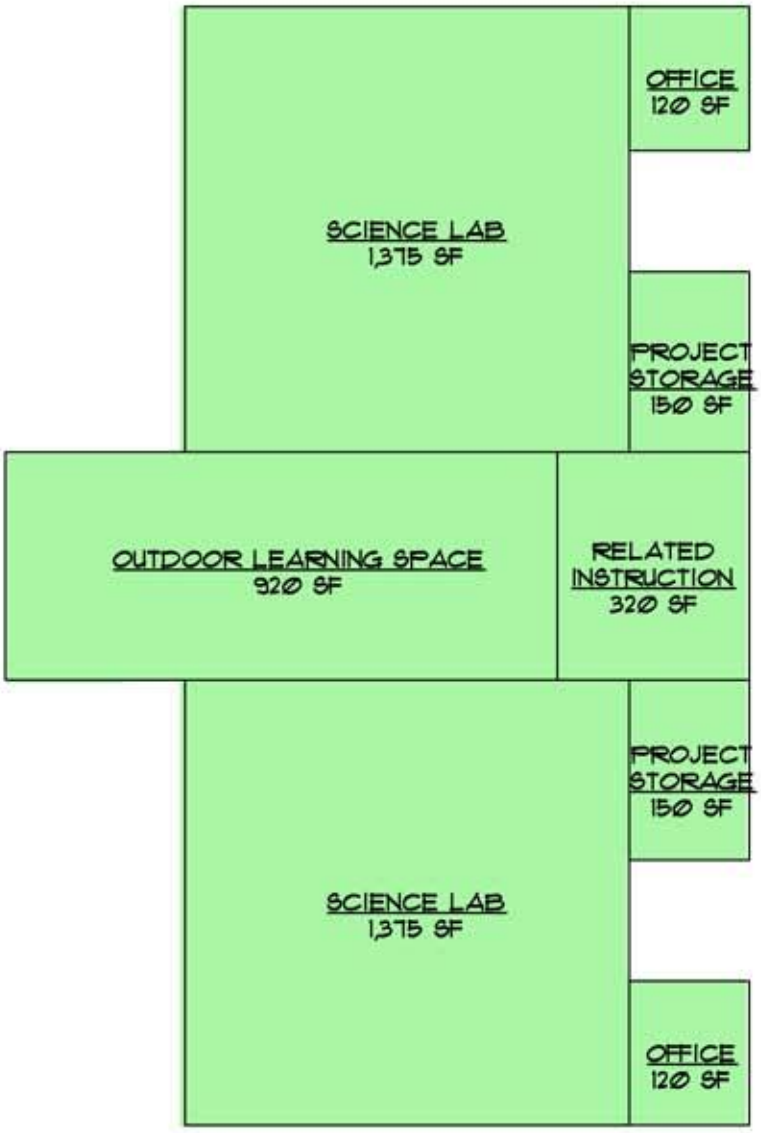


AUDITORIUM

SCALE: 3/64" = 1'-0"

SPACE SUMMARY - SCIENCE LAB

Space Number	FISH Code	Space Name	N.A.S.F.	No. of Spaces	Total Area	Notes
		GENERAL EDUCATION SPACE (N-12)				
1	023	Science Lab (25 seats)	1,275	2	2,550	51 nsf per seat
		Subtotal General Education Space			**2,550**	
		AUXILIARY SPACE (N-PS)				
2	315	Office	120	2	240	
		Subtotal Auxiliary Space			**240**	
		RELATED SPACES				
3	808	Storage	100	2	200	
4	812	Project Storage (Small)	150	2	300	
5	840	Related Instruction	680	1	680	
		Subtotal Related Space			**1,180**	
		SUBTOTAL NSF			**3,970**	
		6% FOR MECHANICAL			**238**	
		TOTAL NSF			**4,208**	
		30% NET / GROSS CONVERSION			**1,262**	
		TOTAL GSF			**5,470**	

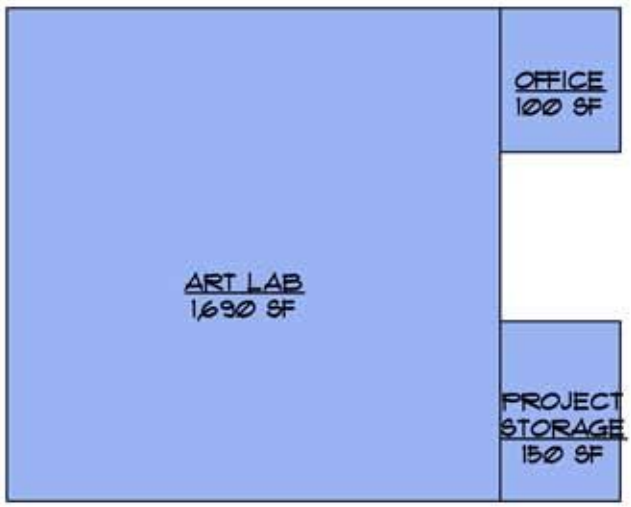


SCIENCE LABS

SCALE: 1/16" = 1'-0" STORAGE INCLUDED IN LAB SPACE

SPACE SUMMARY - ART LAB

Space Number	FISH Code	Space Name	N.A.S.F.	No. of Spaces	Total Area	Notes
		GENERAL EDUCATION SPACE (N-12)				
1	052	Art Lab (30 seats)	1,590	1	1,590	53 nsf per occupant
		Subtotal General Education Space			**1,590**	
		AUXILIARY SPACE (N-PS)				
2	315	Office	120	1	120	
		Subtotal Auxiliary Space			**120**	
		RELATED SPACES				
3	808	Storage	100	1	100	
4	812	Project Storage (small)	150	1	150	
		Subtotal Related Space			**250**	
		SUBTOTAL NSF			**1,960**	
		6% FOR MECHANICAL			**118**	
		TOTAL NSF			**2,078**	
		30% NET / GROSS CONVERSION			**623**	
		TOTAL GSF			**2,701**	

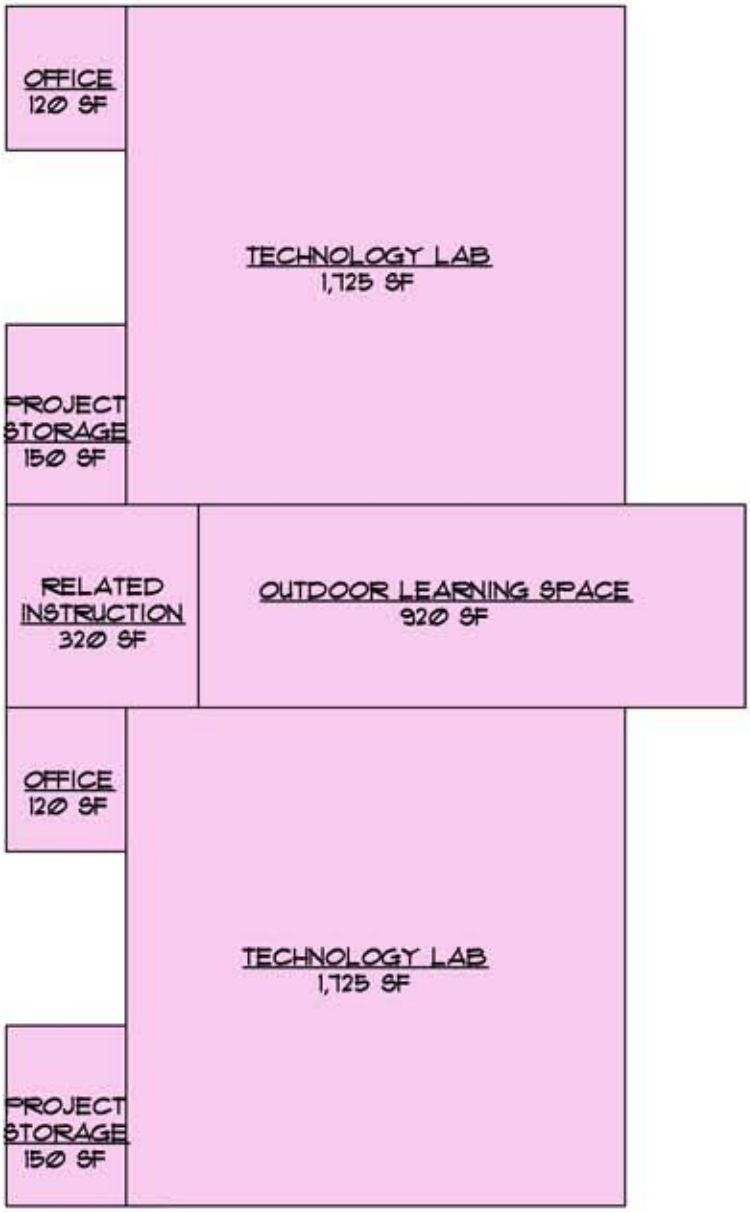


ART LAB

SCALE: 1/16" = 1'-0" STORAGE INCLUDED IN LAB SPACE

SPACE SUMMARY - TECHNOLOGY LAB

Space Number	FISH Code	Space Name	N.A.S.F.	No. of Spaces	Total Area	Notes
		VOCATIONAL - TECHNICAL (6-PS)				
	e.	Technology Education				
1	241	Small Education Lab (25 seats)	1,625	2	3,250	65 nsf per seat
		Subtotal Vocational Training Space			**3,250**	
		AUXILIARY SPACE (N-PS)				
2	315	Office	120	2	240	
		Subtotal Auxiliary Space			**240**	
		RELATED SPACES				
3	808	Storage	100	2	200	
4	812	Project Storage (Small)	150	2	300	
5	840	Related Instruction	680	1	680	
		Subtotal Related Space			**1,180**	
		SUBTOTAL NSF			**4,670**	
		6% FOR MECHANICAL			**280**	
		TOTAL NSF			**4,950**	
		30% NET / GROSS CONVERSION			**1,485**	
		TOTAL GSF			**6,435**	

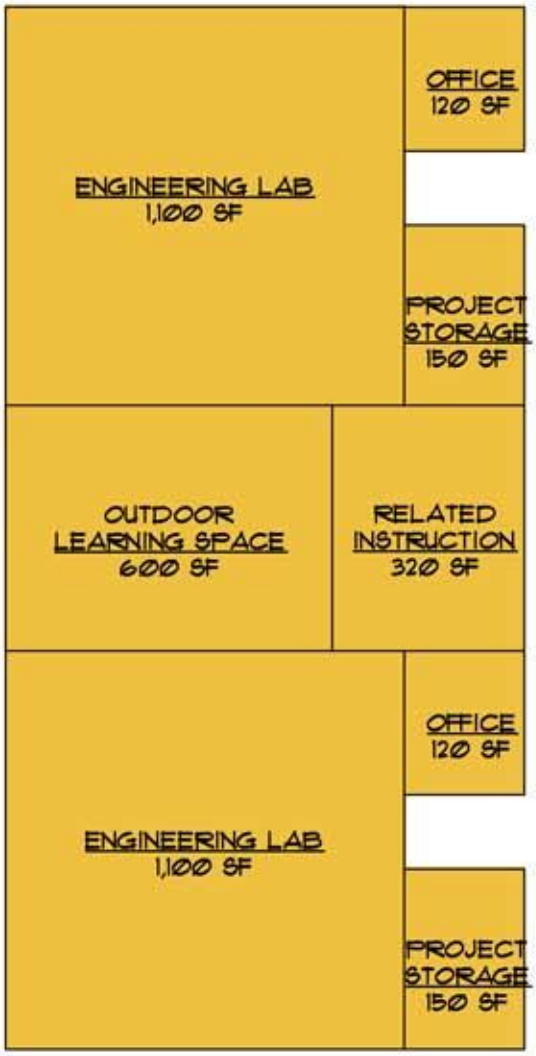


TECHNOLOGY LABS

SCALE: 1/16" = 1'-0" STORAGE INCLUDED IN LAB SPACE

SPACE SUMMARY - ENGINEERING LAB

Space Number	FISH Code	Space Name	N.A.S.F.	No. of Spaces	Total Area	Notes
		VOCATIONAL - TECHNICAL (6-PS)				
	f.	Industrial Education				
1	244	Small Education Lab (20 seats)	1,000	2	2,000	55 nsf per seat
		Subtotal Vocational Training Space			**2,000**	
		AUXILIARY SPACE (N-PS)				
2	315	Office	120	2	240	
		Subtotal Auxiliary Space			**240**	
		RELATED SPACES				
3	808	Storage	100	2	200	
4	812	Project Storage (Small)	150	2	300	
5	840	Related Instruction	680	1	680	
		Subtotal Related Space			**1,180**	
		SUBTOTAL NSF			**3,420**	
		6% FOR MECHANICAL			**205**	
		TOTAL NSF			**3,625**	
		30% NET / GROSS CONVERSION			**1,088**	
		TOTAL GSF			**4,713**	

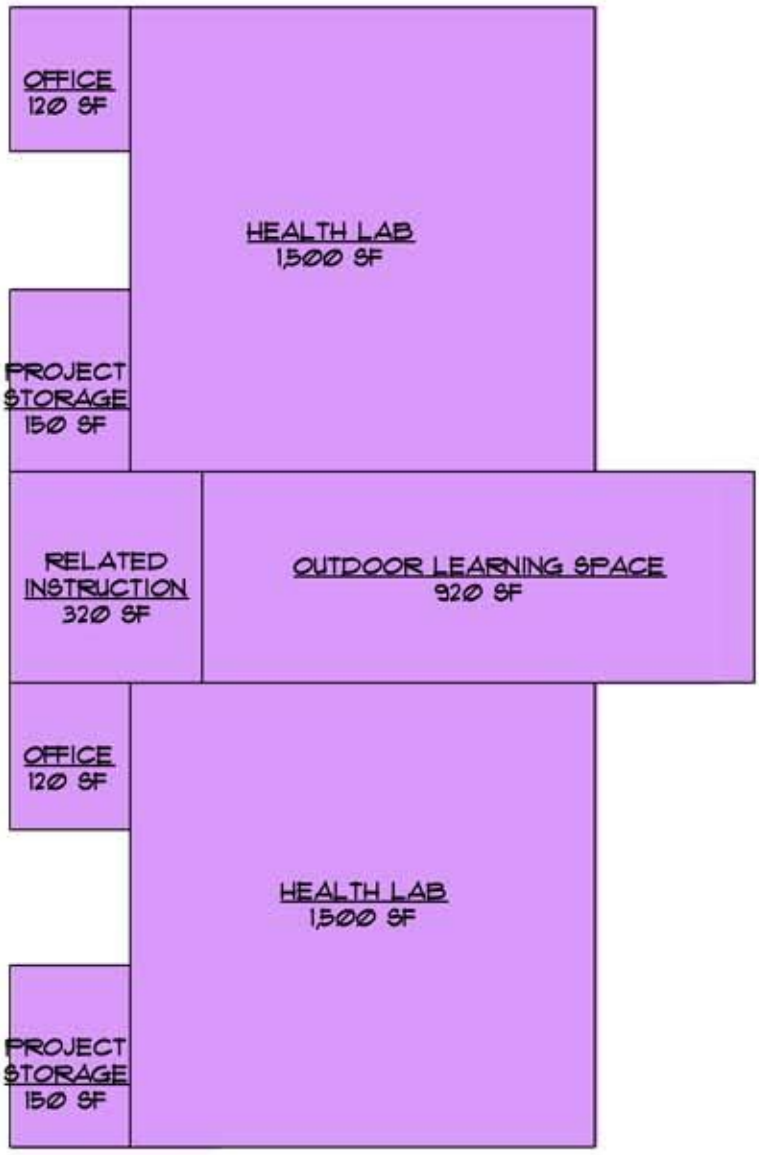


ENGINEERING LABS

SCALE: 1/16" = 1'-0" STORAGE INCLUDED IN LAB SPACE

SPACE SUMMARY - HEALTH EDUCATION LAB

Space Number	FISH Code	Space Name	N.A.S.F.	No. of Spaces	Total Area	Notes
		VOCATIONAL - TECHNICAL (6-PS)				
	g.	Health Occupations Education				
1	251	Practical Experience Lab (25 seats)	1,400	2	2,800	56 nsf per seat
		Subtotal Vocational Training Space			**2,800**	
		AUXILIARY SPACE (N-PS)				
2	315	Office	120	2	240	
		Subtotal Auxiliary Space			**240**	
		RELATED SPACES				
3	808	Storage	100	2	200	
4	812	Project Storage (Small)	150	2	300	
5	840	Related Instruction	680	1	680	
		Subtotal Related Space			**1,180**	
		SUBTOTAL NSF			**4,220**	
		6% FOR MECHANICAL			**253**	
		TOTAL NSF			**4,473**	
		30% NET / GROSS CONVERSION			**1,342**	
		TOTAL GSF			**5,815**	

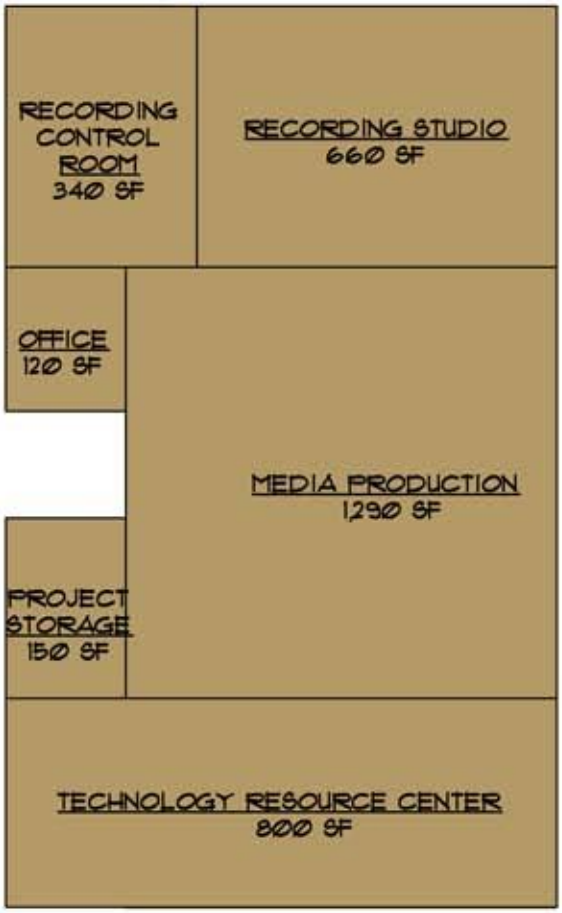


HEALTH LABS

SCALE: 1/16" = 1'-0" STORAGE INCLUDED IN LAB SPACE

SPACE SUMMARY - MEDIA PRODCUTION LAB

Space Number	FISH Code	Space Name	N.A.S.F.	No. of Spaces	Total Area	Notes
		ANCILLIARY SPACE				
1	606	TV/ Recording Studio	660	1	660	
2	607	TV/ Recording Control Room	340	1	340	
3	608	Media Production Lab	1,190	1	1,190	
		Subtotal Vocational Training Space			**2,190**	
		AUXILIARY SPACE (N-PS)				
4	315	Office	120	1	120	
		Subtotal Auxiliary Space			**120**	
		RELATED SPACES				
5	808	Storage	100	1	100	
6	812	Project Storage (Small)	150	1	150	
7	852	Technology Resource Center	800	1	800	
		Subtotal Related Space			**1,050**	
		SUBTOTAL NSF			**3,360**	
		6% FOR MECHANICAL			**202**	
		TOTAL NSF			**3,562**	
		30% NET / GROSS CONVERSION			**1,069**	
		TOTAL GSF			**4,631**	

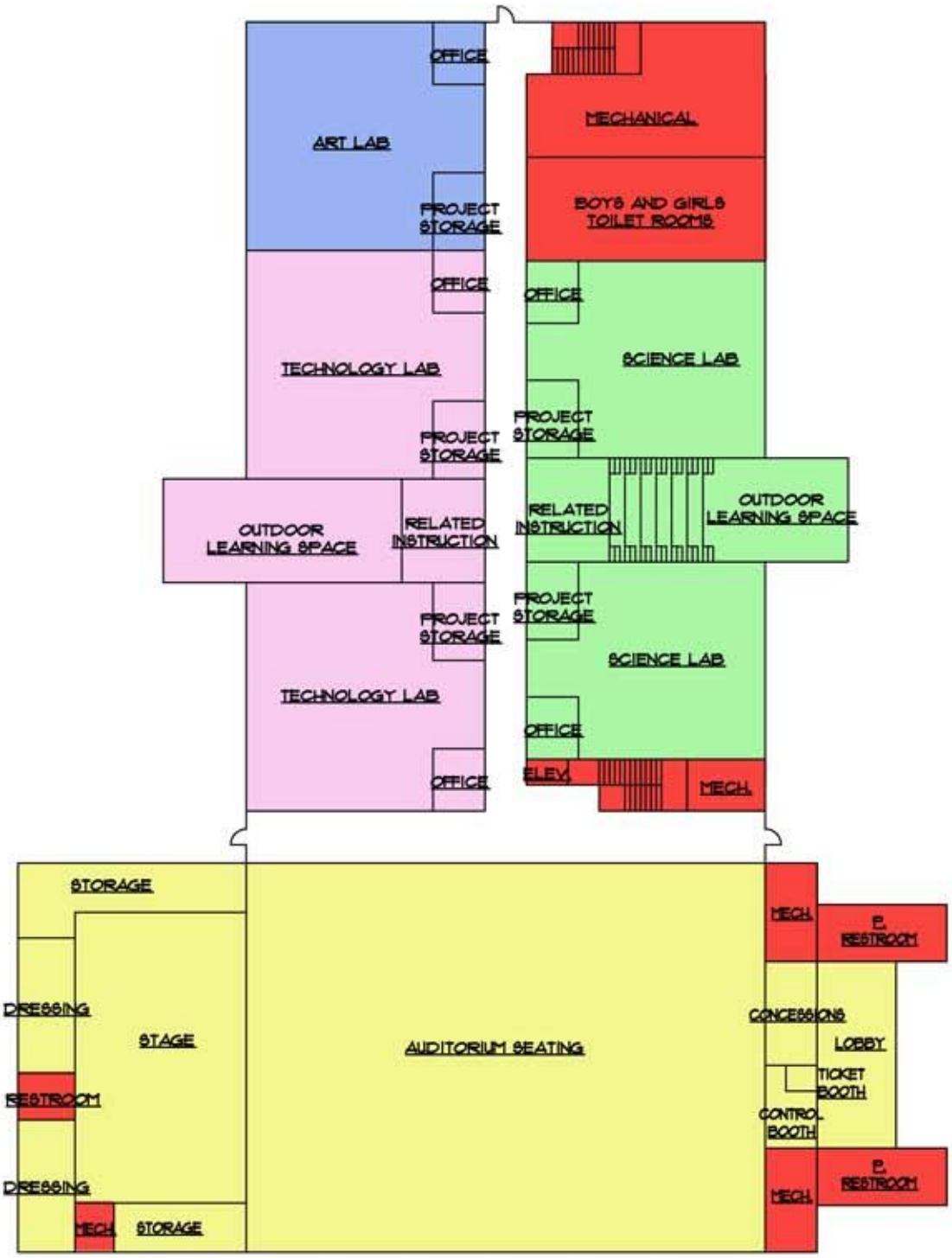


MEDIA PRODUCTION

SCALE: 1/16" = 1'-0" STORAGE INCLUDED IN LAB SPACE

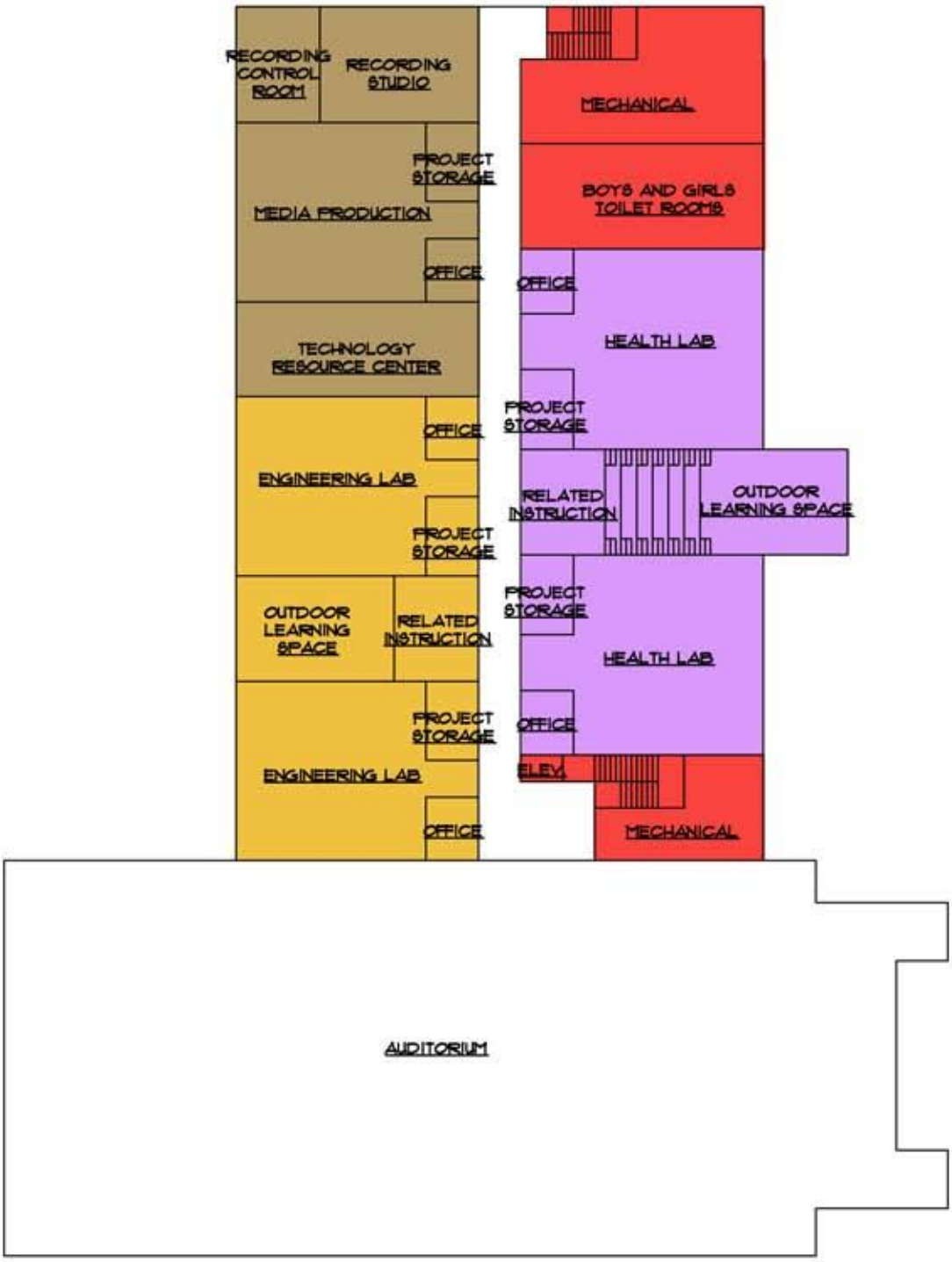
SPACE SUMMARY - OVERALL

Space Number	FISH Code	Space Name	N.A.S.F.	No. of Spaces	Total Area	Notes
		GENERAL EDUCATION SPACE (N-12)				
	023	Science Lab (25 seats)	1,275	2	2,550	51 nsf per seat
	052	Art Lab (30 seats)	1,590	1	1,590	53 nsf per seat
		Subtotal General Education Space			**4,140**	
		VOCATIONAL-TECHNICAL (6-PS)				
	e.	Technology Education				
	241	Small Education Lab (25 seats)	1,625	2	3,250	65 nsf per seat
	f.	Industrial Education				
	244	Small Education Lab (20 seats)	1,000	2	2,000	55 nsf per seat
	g.	Health Occupations Education				
	251	Practical Experience Lab (25 seats)	1,400	2	2,800	56 nsf per seat
		Subtotal Vocational Space			**8,050**	
		AUXILIARY SPACE (N-PS)				
	315	Offices	120	10	1,200	
	360	Auditorum Seating (750 seats)	6,000	1	6,000	
	363	Stage	1,815	1	1,815	
	364	Storage	550	1	550	
	365	Dressing - Male	275	1	275	5 nsf per occupant
	366	Dressing - Female	275	1	275	5 nsf per occupant
	367	Control Booth	100	1	100	
	370	Lobby	550	1	550	10 nsf per occupant
	371	Concessions	200	1	200	
	372	Ticket Booth	30	1	30	
		Subtotal Auxiliary Space			**10,995**	
		ANCILLIARY SPACE				
	e.	Ancillary Media Services				
	606	TV/ Recording Studio	660	1	660	
	607	TV/ Recording Control Room	340	1	340	
	608	Media Production Lab (10% cap)	1,190	1	1,190	7 nsf per occupant
		Subtotal Ancilliary Space			**2,190**	
		RELATED SPACES				
	808	Storage	100	10	1,000	
	812	Project Storage (Small)	150	10	1,500	
	815	Student Restrooms - Male	550	1	550	10 nsf per occupant
	816	Student Restrooms - Female	550	1	550	10 nsf per occupant
	822	Public Restrooms - Male	275	1	275	5 nsf per occupant
	823	Public Restrooms - Female	275	1	275	5 nsf per occupant
	840	Related Instruction	680	4	2,720	
	852	Technology Resource Center	800	1	800	
		Subtotal Related Space			**7,670**	
		SUBTOTAL NSF			**33,045**	
		6% FOR MECHANICAL			**1,983**	
		TOTAL NSF			**35,028**	
		30% NET / GROSS CONVERSION			**10,508**	
		TOTAL GSF			**45,536**	



GROUND FLOOR PLAN

SCALE: 1/32" = 1'-0"



SECOND FLOOR PLAN

SCALE: 1/32" = 1'-0"

VII. Utilities Impact Analysis

The following is a brief analysis of the utilities required for the proposed project. Please see the Site Utility Maps illustrating the location of the existing utilities.

As part of this project, the design professional shall be expected to assist in determining production capacity for chilled water and confirming with the City of Tallahassee the availability of potable water, sanitary sewer and electrical service. Furthermore, it shall be the responsibility of the design professional to advise the School of any potential capacity or system delivery problems.

HVAC

Air Handling System Zoning

When selecting an appropriate HVAC system it is our practice to being with the space level requirements. Many of these spaces require acoustical isolation. This criteria dictates independent air handling units because interconnecting ductwork of common larger air handling units would result in "cross-talk". Areas which require round-the-clock air conditioning such as uniform storage should be isolated from areas where conditioning can be set-back nights and weekends for energy savings.

The nature of this facility dictates a number of smaller air handling systems. While the exact program would be determined as design progressed, a preliminary list of air handling systems might be:

Steam Areas:

Science Lab - Single Zone VAV Variable Air Volume
Media Production Lab - Single Zone VAV Variable Air Volume
TV Control Room - Attenuated supply & return duct path
TV Studio - Recording level critical noise treatment
Art Lab - Single Zone VAV Variable Air Volume
Engineering Lab - Single Zone VAV Variable Air Volume
Technology Lab - Single Zone VAV Variable Air Volume
Health Lab - Single Zone VAV Variable Air Volume

24/7 conditioning areas

Miscellaneous small non-acoustically critical areas - conventional VAV

Auditorium

24/7 Auditorium (light occupancy) / Storage 24/7 basic light load & humidity control - VAV
Events only - auditorium high occupancy + high ventilation unit
Stage - single zone VAV
Front of Building: Lobby / Restroom / Concessions - independent VAV
Rear of Building: Dressing - VAV fan coil units
Control Both: - 24/7 & independent unit

Typically we recommend high-quality maintenance-friendly air handling units including features such as: double wall construction, stainless steel coil headers, slope drain pans, hinged access panels, and few filter sizes.

Primary Cooling System Type(s)

While we did consider a number of potential systems (including, chillers, DX split systems, and DX gas packs) given the number of individual system, we recommend a chiller as the primary system rather than DX alternatives.

Locating a dozen or more condensing units outside around the building is unappealing at best. DX units would have significantly greater lifetime maintenance issues.

Chilled water VAV systems manage the humidity associated with high ventilation loads with minimal complexity. DX systems employing variable capacity compressors (which can handle continuous ventilation loads) employ complex internal controls.

While we recommend a chilled water system as the primary cooling system; it may make sense to use DX units for the individual 24/7 loads so that the chilled water system can be shut down nights and weekends.

Campus Chilled Water System or Independent Local Chiller

One logical approach would be to add chiller capacity to the existing chiller plant; however, adding to the existing chiller plant to serve this remote location is not really an option without significant piping upgrades. We recommend saving the existing plant capacity for new loads located near the plant (e.g. new Media) and to have a measure of redundancy. Thus, we recommend that an independent chiller be installed to serve the Auditorium / Music complex.

Our normal practice would be to recommend two chillers for complete redundancy; however, in this facility we believe a single chiller having two independent refrigerant circuits will provide adequate redundancy. We expect that under normal operations, either there is an event in the auditorium, or the

music classes are being utilized. Only rarely would operating with one of two compressor circuits be insufficient to fully handle the divers demand.

State statues require an economic life-cycle analysis of HVAC system first cost, maintenance cost, and energy costs. As chillers are available in a wide variety of efficiencies and first costs, the final chiller selection will be predicated on this comparative analysis.

Heating System Type

While the campus uses primarily electric heat, the heating load due to ventilation alone would occasionally reach 200 Kw. While heating would normally require much less energy, the occasional peak loads would result in significant electric demand charges.

Due to the high heating loads associated with the high ventilation rates of this facility, gas heat may prove economically advantageous. We would typically install a pair of small modular boilers.

We recommend that this decision between electric heat and a gas heating boiler plant be predicated on the life-cycle economic analysis.

ELECTRICAL

Electrical Power Service and Service Entrance

Primary power will be supplied to the facility by the serving utility, City of Tallahassee. An existing oil-filled padmounted transformer is located adjacent to the proposed site and can be utilized for a new service. This service must be metered independently from the remainder of campus for billings. The expected service size is 300KVA.

Our recommendation is that the secondary service will be at 480V. This will be cost effective and provide more flexibility. Service equipment should be installed in a dedicated room sufficiently large to house all equipment and provide the required workspaces. The main electrical room is also ideally located as close to the service transformer as practical and with direct access to exterior. Multiple, additional small electrical closets may be located in other spaces for economy and efficiency

Emergency Power for Life Safety

Emergency power will be required for this project. Emergency power will be connected to the life safety system which includes egress lighting and any required markings, fire alarm system, smoke control system and required alert or announcement equipment. New loads are not extensive and the existing

emergency generator can be utilized to supply this power. A dedicated distribution system, separated from normal power is a requirement. Battery supplied equipment is not recommended due to higher maintenance requirements and costs.

Telecommunications and Networking

A system consisting of outlets, jacks, backboards, cabling, and accessories will be provided for the project. A complete raceway system will be provided and all wiring will be installed in raceways or cable trays. All wiring pathways will be installed in accordance with the National Electrical Code.
Telecommunications and networking service to the new project will be from the existing main distribution frame room. The existing underground duct system will be expanded and extended to the new project. New wiring will be installed. Spare raceway and conductors/cables will be provided.

Outlets will consist of multi-plex or single outlets as required and as directed. Cable will be standard 4 pair category 6 or as directed by the Owner.
The walls of the signal/telephone closets will be lined with 3/4 inch "fire retardant" plywood, 8-feet high with the bottom one foot above the finished floor. Duplex receptacle in the signal/telephone closets will be provide.

Interior and Exterior Lighting and Controls

The principal interior lighting source will be fluorescent. Compact fluorescent (PL) lamps will be used in place of incandescent lamps where fixture types permit in order to reduce energy consumption and heat load. Recessed, lay-in type fixtures will be used extensively in offices, staff areas and corridors. Special attention will be given to all areas to provide a very low brightness, high uniformity design while staying within the IES recommendations for illumination levels and electrical per square foot load.

Areas special to the Owner's construction will be treated in the recommended way. Emergency lighting will be provided. Controls must be arranged for automatic changeover to emergency power in the event of a loss of normal power.
The principal exterior lighting source will be light emitting diode type.
Area/roadway lighting will be utilized at driveways and in parking areas. Lower level area type fixtures will be used nearer the building and at walkways. Signage and marking lighting will be provided as required.

Theatrical Lighting and Sound

A theatrical lighting and control package is a programmatic element for this project. The package will consist of microprocessor controls, solid state dimming, incandescent and Light Emitting Diode sources, power supplies and required rigging. This package should be full featured and have the ability to interface with

the latest personal electronics including tablets and smartphones. The equipment specified must be very high performance while still capable of being used and programmed by students.
The auditorium sound system will include digital controls with signal pre and post processing capabilities, ability to interface a variety of signals including microphone, auxiliary devices such as DVD or solid state memories, personal electronics and other line level inputs. Wireless capability should be a feature of the system. Outputs will drive a high power speaker system consisting of five or more channels with sub-frequency channel.

Intercommunications

An intercom and paging system will consist of ceiling speakers and central equipment with general paging capabilities. Intercom stations and speaker assemblies will be provided in all classrooms and common spaces. Both general and zone paging features will be provided. The school office, and other designated positions will have access to both wide and zone paging through the telephone system.

The existing campus intercom head-end equipment will be expanded and supplemented to address the new spaces.

Lightning Protection

Florida has some of the highest lightning activity in the world. A high performance protection and mitigation scheme is recommended for this facility. Components may include passive aerial systems, surge arrestors at electrical service entrances, surge protection devices on power distribution equipment, protection of low voltage systems and all circuits entering and leaving the building. Use of fiber optic technology wherever possible will enhance reliability.

Fire Detection and Alarm

The existing campus wide fire alarm system will be extended to all new construction. Communications between new and existing should be over dedicated fiber optics network for maximum reliability.

The supervised fire alarm system will provide audible signals, strobe flashing lights for the hearing impaired, manual and automatic initiating devices, smoke door release, auxiliary operation of mechanical systems, sprinkler supervision, and transmission of alarm and trouble signals to locations as directed. The fire alarm system, door releases, and other auxiliary functions will operate as a direct current (DC) system and will have a standby battery power source as well as an emergency power source.

The fire alarm system will be designed in accordance with NFPA and Florida Building Code standards.

Single station smoke detectors will be provided in any sleeping rooms. These detectors will be connected to normal AC branch and will not be connected to the fire alarm system.

Connection will be made to electronic/electromagnetic door releases located at corridor smoke barrier doors and other locations required.

Connection will be made to the sprinkler and standpipe systems water flow switches, control valve supervisory switches and OS&Y standpipe, post indicator valve (PIV), and control switches as appropriate.

Audible devices will be located to sound alarms at 15 dB above ambient noise levels. Strobe lights, for the hearing impaired, will be located in restrooms and the egress path at distances not to exceed 100 feet.

Security and Access Control

A security system is anticipated and will consist of access control points, automatic door locks and input devices. Motion detection, door ajar and other system input devices will be included as appropriate.

FIRE PROTECTION & PLUMBING SERVICES

Domestic Water

Domestic water is supplied by the City of Tallahassee and is located under Shumard Oak Blvd. The condition and adequacy of the current potable water supply meets the needs of the campus. A 3" water meter and 4" RPZ backflow preventer are located on Shumard Oak Blvd. where the water service enters the campus. It is anticipated that a 3" domestic water service will be extended to the building.

The building domestic water system will be installed with copper piping located above the ceiling. Hot water systems will be circulation type with electric hot water heaters located in each mechanical room.

Fire Water

The water supply for the fire protection system is supplied by the City of Tallahassee from a 12" water main under Shumard Oak Blvd. An 8" RPZ backflow preventer is located at Shumard Oak Blvd. where the water service enters the campus. It is anticipated that the 6" fire main will be extended to provide a fire hydrant located near the front of the auditorium. A 4" building fire service will then be extended to the building.

The building will be designed with wet type fire protection sprinkler systems in all areas of the building. The sprinklers will be connected to the fire alarm system with the use of flow switches on each zone. Upon a possible fire sprinkler trip the fire alarm system will annunciate which zone the fire is located.

Sanitary Sewer

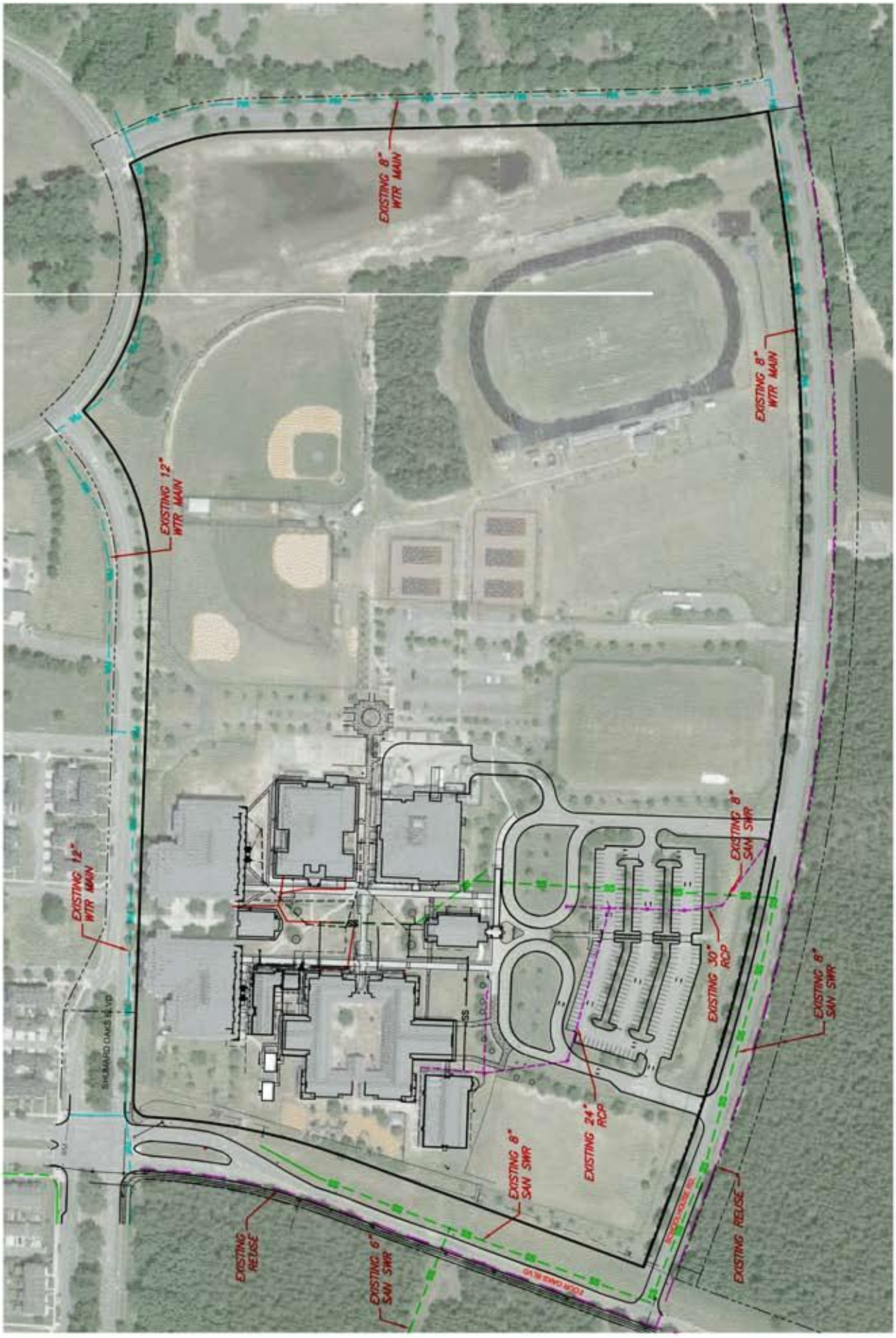
Sanitary sewer service is supplied by the City of Tallahassee and is located under School House Road. An 8" sanitary sewer line runs down the center of campus connecting to all buildings and the condition and adequacy of the current sanitary sewer system meets the needs of the campus. It is anticipated that two 4" sanitary waste mains will emanate from the building.

The building sanitary waste system will utilize schedule 40 PVC drainage and waste piping which will be installed below the floor slab. The building will have the required number of toilet fixtures including ADA toilets. Water closets will be floor mounted type with operated flush valves. Lavatories will be wall hung type with self-closing faucets.

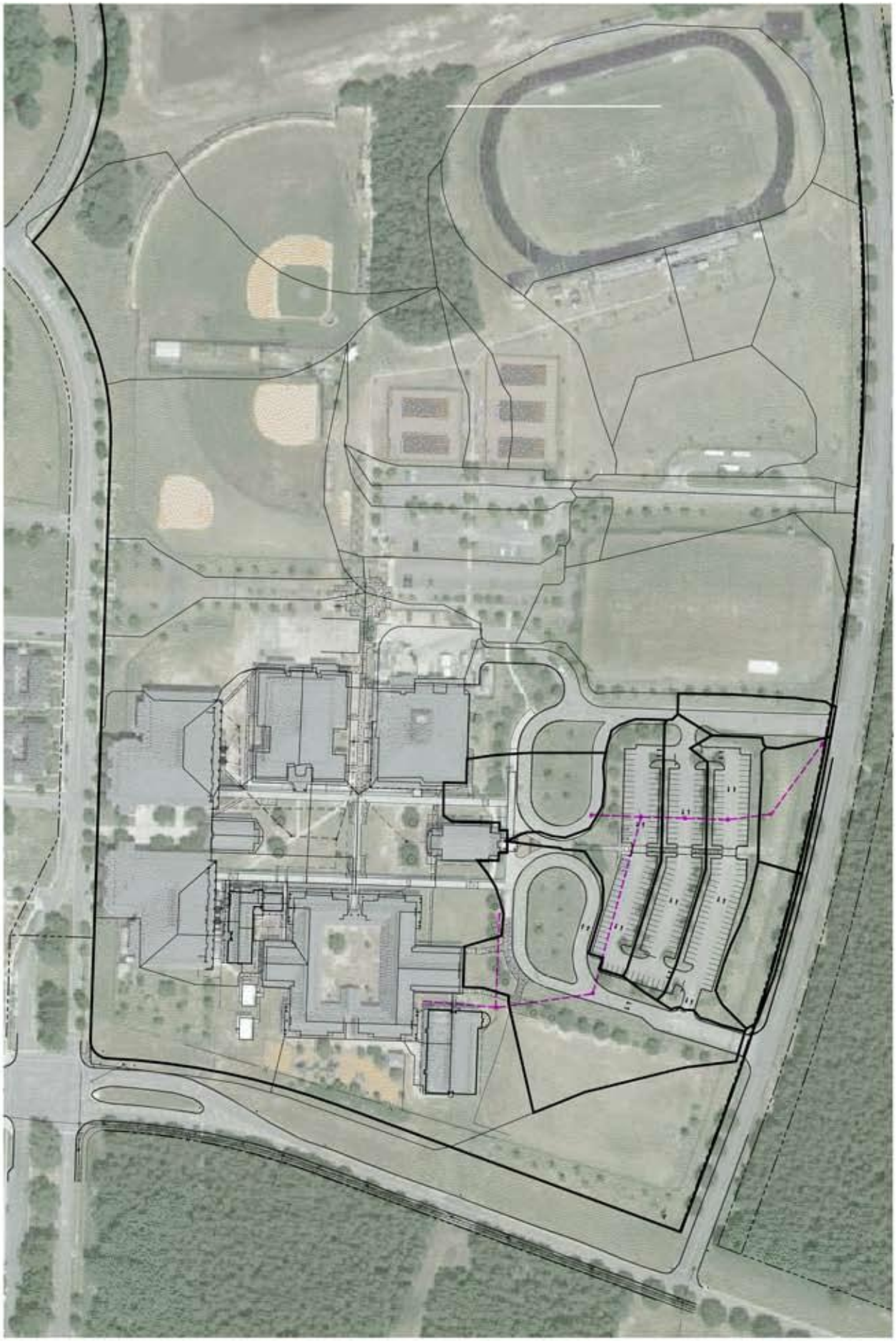
Irrigation Water

The existing school has an irrigation system for its lawns and playing fields. The system is served from a well located in the Receiving / Service Yard. Expansion of this system is not expected for this project, although the existing system will require modifications depending on the locations of the new buildings.

SITE PLAN



EXISTING CONDITIONS



EXISTING BASIN MAP

IX. Project Budget Summary

This project's estimated Project Budget Summary can be found on the following page. This summary includes a breakdown of all project costs including site development, construction, and construction related costs such as design fees and furnishings/equipment. The design professional shall be responsible for verifying these estimated costs prior to the commencement of this project and during its duration. The design professional is encouraged to make recommendations for adjustments where necessary.

All costs outlined in the Project Budget Summary are based primarily upon current dollar values. No inflationary factors have been utilized in developing either construction or administrative costs unless otherwise noted.

Figures relating to some site-development costs are based primarily upon assumed allowances and do not reflect "take-off" calculations. During the design process, it shall be the design professional's responsibility to review these and other costs and make recommendations for any adjustment. Other factors or influences which have been considered in developing the Project Budget Summary are listed below:

1. The costs associated with impact fees assessed as the result of the local growth management legislation have not been included in this summary. If determined to be applicable, the design professional shall assist the University in responding to or developing information pertinent to the estimating of these fees.

2. Costs associated with concurrency or consistency have likewise not been included. The design professional shall similarly assist the University in responding to this item.

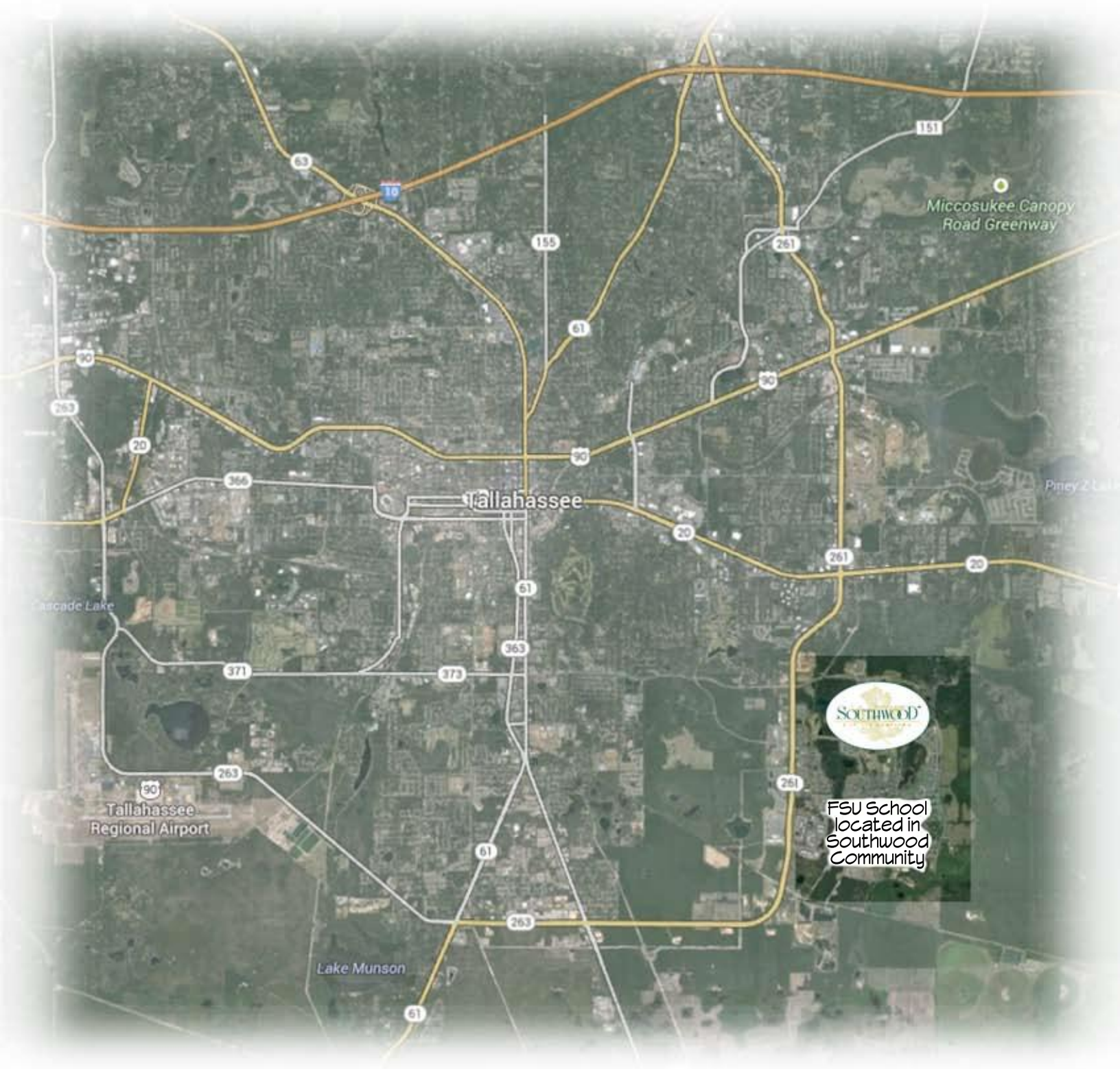
3. The conversion factor of 1.378 utilized on the following page to convert ASF to GSF is based upon the recommended areas allowed by DOE Form OEF208A. It should be noted that this conversion factor represents a target figure and that actual net-to-gross ratios shall be determined by two factors: the design of the facility and the available budget.

4. Similarly, the Construction Cost per GSF is based in part upon DOE construction cost data for music classrooms, auxiliary space and auditorium space as well as local school district historical data for the construction of similar types of facilities.

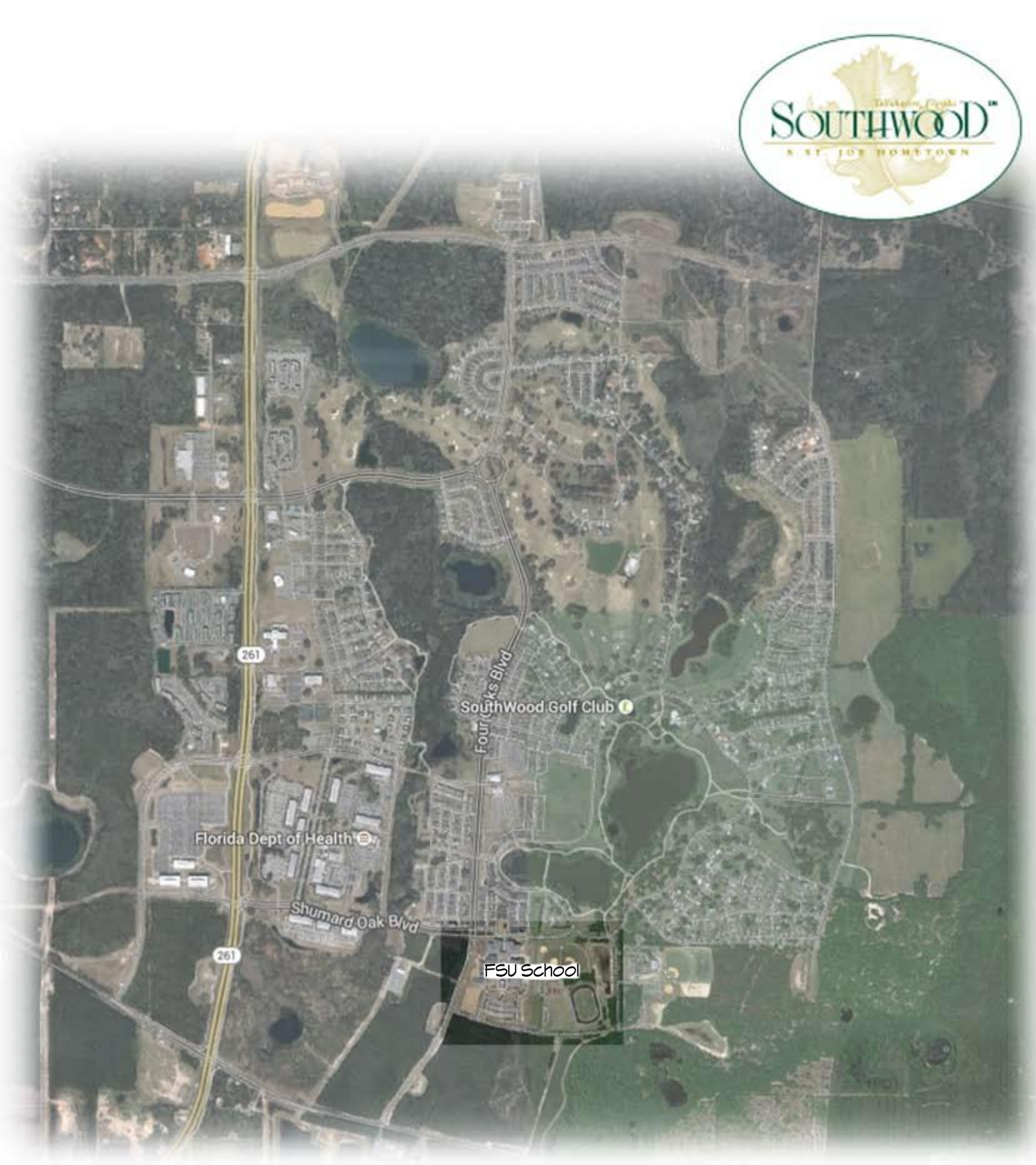
BUDGET SUMMARY

FISH No.	PROJECT DESCRIPTION: Facility / Space Type	Net Area (NASF)	Net to Gross Conversion	Gross Area (GSF)	Unit Cost (Cost/GSF)	Total Cost
001-099	General Education Space (N-12)	4,140	1.378	5,705	200	1,141,000
200's	Vocational-Technical (6-PS)	8,050	1.378	11,093	200	2,218,600
300's	Auxiliary Space (N-PS)	10,995	1.378	15,151	280	4,242,280
600's	Ancilliary Space	2,190	1.378	3,018	260	784,680
800's	Related Spaces	7,670	1.378	10,569	220	2,325,180
	TOTALS	**33,045**		**45,536**		**10,711,740**

SCHEDULE OF PROJECT COMPONENTS	Planning	Construction	Equipment	Total
1. Construction Components (Basic Construction Cost)				
a. Construction Cost (from above)		10,711,740		10,711,740
Site Development Costs		320,000		320,000
(1) Total Basic Construction Costs	0	11,031,740	0	11,031,740
2.Other Project Components (Other Project Costs)				0
a. Land/existing facility acquisition		0		0
b. Professional Fees				0
Basic Services (Group A)	642,253			642,253
Design Contingency (10% Bas. Serv.)	64,225			64,225
c. Construction Manager	0			0
Preconstruction Services	110,317			110,317
d. Fire Marshal Fees (.0025)	27,579			27,579
e. Inspection Services				0
Site Representation $10,000/mo.		0		0
Threshold Inspection		43,024		43,024
Roof Inspection		0		0
f. Surveys & Tests				0
Surveys/Topography/Geotechnical	10,000			10,000
Materials Testing	5,000			5,000
HVAC Testing/Balancing	5,000			5,000
g. Permit/Impact/Environmental Fees	160,000			160,000
h. Artwork (.005) - Not Required				0
i. Moveable Furnishings & Equipment (15%)			1,654,761	1,654,761
j. Classroom Technology Equipment			110,317	110,317
k. Telecommunications (2%)		220,635		220,635
l. Infrastructure Assessment (2%)		220,635		220,635
m. Project Contingency 6.5%		717,063		717,063
(2) Total - Other Project Costs	1,024,375	1,201,357	1,765,078	3,990,809
ALL COSTS (1) + (2)	**1,024,375**	**12,233,097**	**1,765,078**	**$15,022,549**

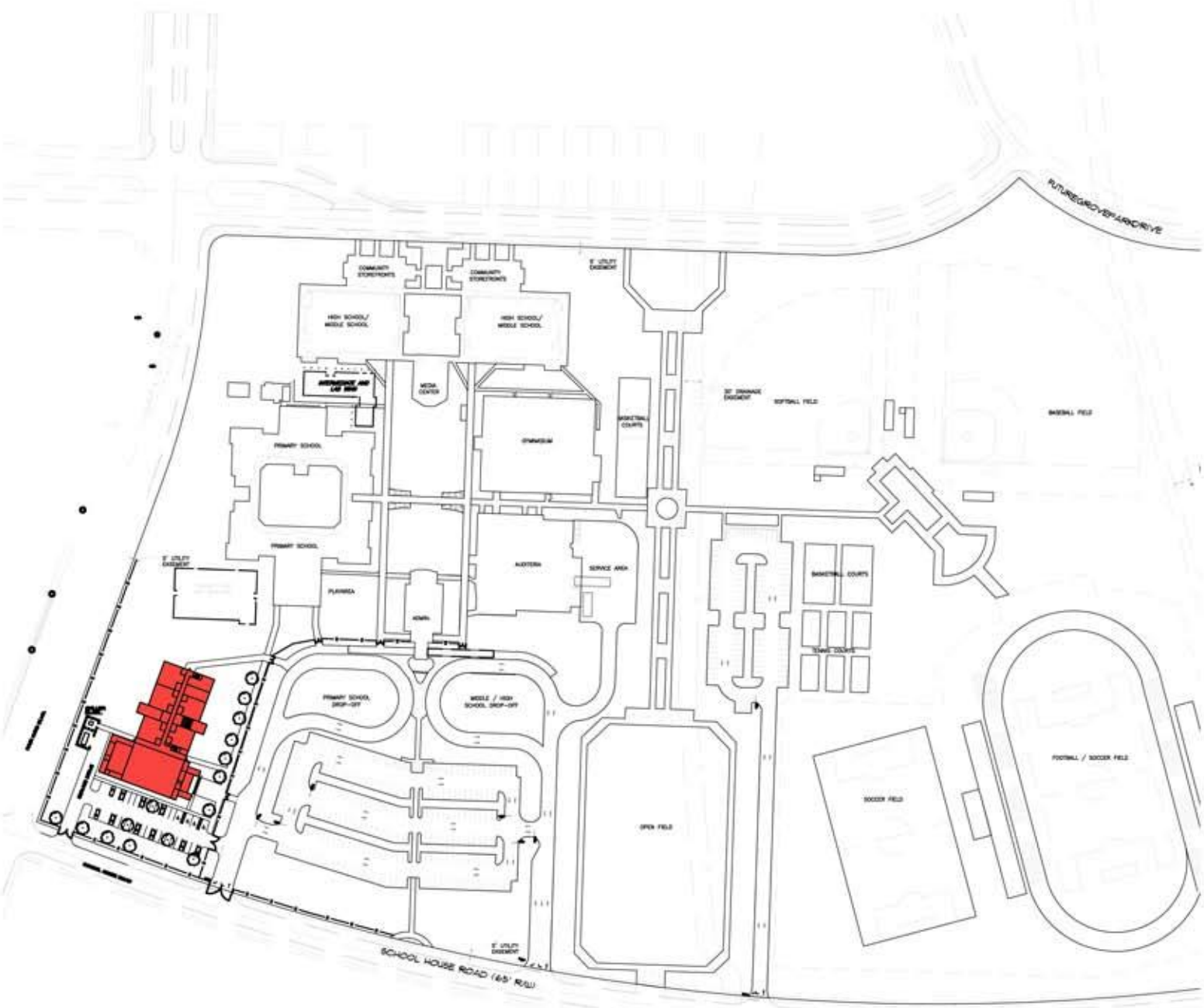


PROJECT LOCATION MAP



PROJECT NEIGHBORHOOD MAP

PROJECT CAMPUS MAP



CAMPUS PLAN

SCALE: 1" = 250'-0"

SITE PLAN

SCALE: 1" = 100'-0"

GROUND FLOOR PLAN

SCALE: 1" = 50'-0"

SECOND FLOOR PLAN

SCALE: 1" = 50'-0"

EAST ELEVATION

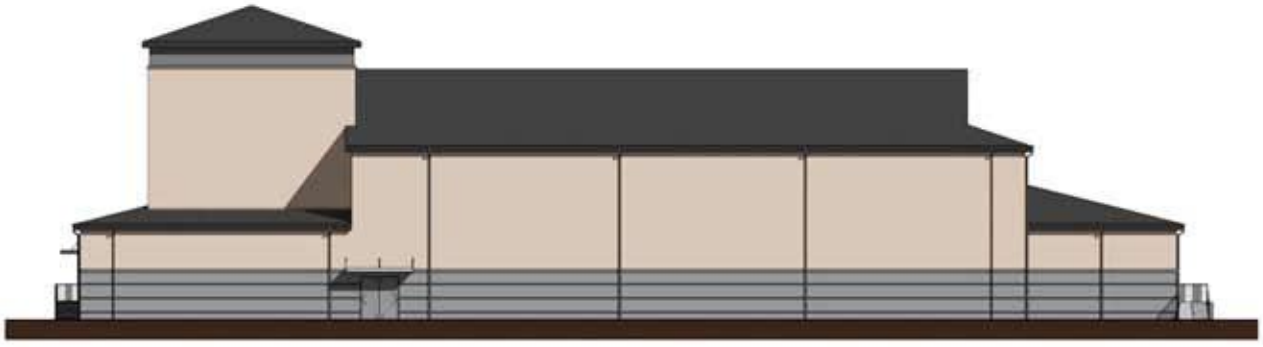
SCALE: 1/32"=1'-0"

WEST ELEVATION

SCALE: 1/32"=1'-0"

NORTH ELEVATION

SCALE: 1/32"=1'-0"



SOUTH ELEVATION

SCALE: 1/32"=1'-0"