PROJECT BOOK + PORTFOLIO LORENA GUIMARAES

Advanced Architectural Design Studio 2 | Spring 2023 | Instructor: Lisa Huang AIA









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SECTION ONE: PROJECT BOOK

RESEARCH + REGULATORY REQUIREMENTS



Adaptive Reuse of the Bob Carr Performing Arts Center | Orlando, Florida

Advanced Graduate Design 2 is the Integrative Studio, so we develop one project in depth during the semester. The goal is to produce a complete set of project documents that address programming, codes, accessibility, building systems, and envelope design. In addition, this project confronts issues of sustainability and adaptive reuse for an existing site and building complex.

Adaptive reuse is common practice in dense cities that value cultural heritage. In the United States, since we are a young nation, the inclination is to demolish old buildings to construct new ones. The conventional viewpoint is that is less expensive to demolish and rebuild than to re-use a building that requires surgical intervention. However, the counterargument is that issues of construction waste in landfills, energy consumption in the process of demolition, and sourcing new building materials make a huge impact on embodied energy and carbon emissions. The EPA reports that building-related construction and demolition accounts for 26% of all non-industrial waste in the US. Research shows that adaptive reuse is more sustainable than demolition and new construction. This semester, our studio project focuses on the idea of celebrating and preserving cultural heritage – there is no need to erase the past to advance forward to give a place new life.

Our site is an existing but inactive performing arts theater and site located in the Creative Village development in downtown Orlando. The Bob Carr Theater (401 West Livingston Street) is a significant historic site identified by the City of Orlando. However, the Dr Phillips Center for the Performing Arts has replaced the Bob Carr Theater as the premier event space for Orlando. The City of Orlando is interested in the site's potential, and for this studio, we will envision the possibilities for the site. Each student will propose a site and building vision based on thorough research and establish a convincing argument for their design proposal. The size of the project is 60,000 – 75,000 square feet of conditioned program.

PROJECT SITE

The Bob Carr Theater + its parking lot sits empty and unused since 2019. It is no longer available for performance events to avoid competition with the Dr Phillips Center for the Performing Arts. In the last 100 years, the existing theater has gone through numerous renovations and additions.

The existing building was first constructed in 1926 as the Orlando Municipal Auditorium which was a community center that accommodated a wide range of events such as graduations, dog shows, recitals, and pageants. The 1924 structure is a brick construction, and the main event space is an octagon shape in plan with a classical brick entry. In 1975, the Orlando Municipal Auditorium was transformed to specifically function as a theater and concert hall. The 1926 flat event floor was transformed into raked theater seating for 2,518 people. A new glass and brick entry lobby enclosed the original brick facade, and the building was renamed the Bob Carr Performing Arts Theater. In the 1990s, the back-of-house was expanded into a new addition that included a proper fly tower space. Throughout its history, the building has been home to the Orlando Philharmonic Orchestra, Orlando Opera, and the Orlando Ballet.

The Bob Carr Theater is a historical landmark, but according to the City of Orlando, it does not mean the building cannot be altered. The building leaks, floods, and has other major problems especially in the 1990s addition and in the orchestra pit. The Creative Village developer, Ulster, has proposed to tear down the entire Bob Carr Theater in order to use the site for large scale residential, office and hotel programs. The creative Village is north of a historically black and underprivileged neighborhood, Parramore, that wants to preserve its history but also find a way to improve their neighborhood. In this studio, the students will research and evaluate the existing building and site context and then determine how to reuse and reprogram the existing building so that it best services the neighboring community and the city of Orlando.



INTRODUCTION

PARRAMORE BALLET CENTER

The program consisted in the adaptive reuse of Orlando's former performance theater, Bob Carr. The theater is today closed as its activities were transferred to Dr. Phillips Center for the Performing Arts. Bob Carr is part of Orlando's historical heritage as it started as a community center in 1926, going to renovations in 1975. The challenge of this project was to give new functions and activities to Bob Carr theater and at the same time keep some of its historical references.

The former theater is today located in the Creative Village area, downtown Orlando. Creative Village has been a successful project and is composed of mix-used apartments, downtown campus of Valencia College and University of Central Florida, businesses, and some food facilities. However, the site analysis also brought up the historical community of Parramore, which was once a segregated but thriving neighborhood in Orlando that unfortunately has been neglected in many aspects for the past decades.

Parramore have elaborated a document identifying the needs they currently face, among them there is the lack of cultural and educational activities; although they are relatively close to Dr. Phillips theater, they cannot afford to attend to classes or performances there. Therefore, I have addressed this need to be the focus of the program for this project, named Parramore Ballet Center.

Parramore Ballet Center is dedicated to the instruction of ballet for children, adolescents, and adults. Also, there is a Company Ballet wing, a costume design and stage design school. The building will also have two community theaters and, an office wing, an atrium, and a flexible room, which is a multi-event space with mobile equipment to respond to different events.

The building addresses Parramore's need for cultural and educational activities and the principles of flexible architecture, which aims at responding to many functions in fewer spaces.

The building's design goal was to become an extension to the street, to break from the closed, introvert, secluded former theater to become an inviting, open, informal venue. The ballet studios are extruded from the building, and their glass walls will allow those walking by or approaching the building to see through the activities. The building's atrium will breathe fresh air into the space, being a place for gathering, to have coffee, to wait, and to watch unprogrammed dance presentations, as there will be improvised stages along for small performances.

Overall, the Parramore Ballet Center will not only be reminiscent of the Bob Carr theater, keeping its historical presence and memory, but it will also provide a place of culture and leisure for the residents of Parramore Community. Moreover, the design advocates the principles of flexible architecture, which can be efficient in meeting locals' needs, avoiding waste of space and planning for future tenants.



SITE AND CONTEXT ANALYSIS



















SITE AND CONTEXT ANALYSIS























SITE DEVELOPMENT INFORMATION

SITE DEVELOPMENT DATA							
Address	401 W.	Livingstor	Street, Or	lando FL (Bob Carr Theater)		
Owner	City of Orlando						
Lot Area	63,314.75						
Total New Program Area (sq ft)	150.000						
Building Height (feet)	50 feet						
On-site Parking Spaces	<insert #="" of="" parking="" spaces=""></insert>						
	North	South	East	West			
Site Property Lines (feet)	223,82	190	311,54	311,54			
	North	South	East	West			
Setbacks (feet)							
Actual FAR					0,77		
					50,563/63,314.75		

PROPERTY MAP

GIS Orange C	County InfoMap Public	et alu
Navigation Identification Search Select	ction Reports Markup Tasks	Tool Labels X
Coom In Zoom Out Pan Previous Extent Next Ext	tent Initial View Bookmarks Plot Coordinates	
Parcel - 292226185614000 = × ADD4 N/A Owner City ORLANDO Owner State	Viewant to	
FL ZIP 32801		
Owner Country N/A		
Acreage 1.454	atham A	
SALE_DATE Jan 1, 1900 12:00 AM	U Livingston Street	
SHAPE_Length 1096.5874		

Screenshot

From Orange County Government site:

SHAPE_Area

63314.7463

🥪 Layers 📵 Parcel - 29222618561..

https://ocgis4.ocfl.net/Html5Viewer/Index.html?viewer=InfoMap_Public_HTML5.InfoMap_Public

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CREATIVE VILLAGE MASTER PLAN

Srry.

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Base Map



https://creativevillageorlando.com/wp-content/uploads/2023/03/CV-Handout-March-2023.pdf



ZONING INFORMATION

Existing Zoning District: PD (Project Development)

Overlay Districts: T (Traditional City) and PH (Parramore Heritage)



From City of Orlando Zoning Maps: https://gis.orlando.gov/PDF_Docs/PlanningMaps/ZoningMapSeries/ZON_08.pdf



SUMMARY OF PROGRAM REQUIREMENTS

Space Requirements Summary			Net Area	dioss
Ballet School			1.080	3.600
Company Ballet			1.637	5.455
Stage Design School			1.089	3.630
Costume Design School			1.089	3.630
Theaters x 2			600	2.000
Healthy Food			90	300
Café			180	600
Public Spaces			1.200	4.000
Flexible Room			2.800	4.000
Administration			408	1.360
Building Area (enclosed spaces)	Efficiency	70%	10.173	28.575
Tare	% of Gross Area	30%	18.403	
Total gross area all buildings			28.575	28.575

INTERIOR PROGRAMS (CONDITIONED SPACES)

Ballet School	GROSS AREA (sa ft)
Studio 130 x 40	1200
Studio 2	1200
Studio 3	1200
Dressing Boom	665
Lookeroome	000
Lockerooms	360
	1005
IUTAL AREA	4620
	1
Company Ballet	sence
company ballet	ABEA (so ft)
Studio 1	3250
Dressing Boom	665
Physical Theraphy	385
Gum	540
Lockerooms	590
Storage Costumes	700
TOTAL ABEA	6120
	0120
Stage Design School	GROSS AREA (sq.ft)
Studio/Fabrication	2000
Class 1	615
Class 2	615
Storage	400
TOTAL AREA	3630
Costume Design School	GROSS AREA (sq.ft)
Studio/Fabrication	2000
Class 1	615
Class 2	615
Storage	400
TOTAL AREA	3630
Office	
Offices (8)	200
Conference Room (2)	250
Storage	400
Reception	550
Break Room	230
	1630

Flexible Room

L	
	4000
•	



PROGRAM and REGULATORY REQUIREMENTS

APPLICABLE CODES

Orlando City Code Florida Building Code, 7th Edition, 2020 FBC Accessibility, 7th Edition, 2020 City of Orlando Applicable Codes for Permitting: https://www.orlando.gov/Building-Development/Permits-Inspections/Get-a-Permit/Forms-Documents/Applicable-Codes-for-Permitting Florida Building Code https://codes.iccsafe.org/content/FLAC2020P1/preface

BUILDING CODE ANALYSIS (IBC + FBC)

USE GROUP + OCCUPANCY CLASSIFICIA	ATION EGRESS [Chapter 3]			1	
Occupancy Classification + Use	<insert all="" chap<="" groups="" per="" program.="" see="" th="" use="" your=""><th>ter 3 FBC></th><th></th><th></th><th></th></insert>	ter 3 FBC>			
	Group A-1 - Theater - A-1: This division includes fac	ilities for th	e public production and viewing of the performing arts,		
	such as motion picture theaters, performing arts ha	alls and the	aters, and broadcast studios with		
	viewing audiences.				
	Group B - Ballet School and Costume and Stage Des	sign School	 Training and skill development not in a school or academic 		
	program (this shall include, but not be limited to, tu	itoring cent	ers, martial arts studios, gymnastics and similar uses regardless of		
	the ages served, and where not classified as a Grou	ip A occupa	ncy).		
	Group B - Coffee Shop, Juice Bar,				
		_			
OCCUPANT LOAD CALCULATION					
(Section 1004)	Function of space			Project	Occupant load
			Occupant Load Factor (FBC Table 1004.5). (NYC Table 1004.1.1)	Area (sq ft)	
	Assembly, Library/Archvie, Reading room		50		
	Exhibit Gallery and Presentation Space - Floor 1		30		
	Reception		50	550	11
	Break Room		15	230	15
	Ballet Studio - Company		50	3250	65
	Ballet Studio - School		50	1100	110
	Juice Bar		50	300	6
	Conference Room	-	15	250	33
	Classroom		20	615	62
	Lockeroom - School	1	50	360	14
	Lockeroom - Company	1	50	580	23
	Costume Design Studio	1	20	2000	100
	Fashion Design Studio	1	20	1500	75
	Lounge 2nd floor	1	30	2000	67
	Pre-event area - 3r floor	1	50	3800	76
	Atrium	1	30	20000	667
	Theather		15	1000	133
	Dressing room		50	665	27
	Office	8	100	200	16
	Ballet and Gift Shop		30	650	22
	Storage Coffee Shop		300	100	0
	Costume Storage		300	700	2
	Storage - 3rd floor		300	580	2
	Storage - Offices - 1st floor	4	300	400	5
	Physical Therapy Room		50	385	8
	Gym		50	540	11
	Back Stage		300	1000	7
	Cottee Shop		50	500	10
TOTAL OCCUPANT LO	AD				1567

	Construction Type	3-HOURS - Type I-A			
	Automatic Sprinkler System	Yes			
	Building Height + number of Storied permitted		UH # of Floors UA		
	ACTUAL Building Height + Number of Stories		75 # of Floors		
	Maximum Area of any single floor permitted		UA		
	ACTUAL maximum area of any single floor		48000		
FLORIDA BUILDING CODE 2020 link:					
https://codes.iccsafe.org/content/FLBC202	20P1/chapter-10-means-of-egress				
SPACES WITH ONE EXIT OR EXIT ACCESS	DOORWAY (Table 1006.2.1)	Marchannen Betharf Franzisk Distance (4)			
Occupancy	Max Occupant Load of Space	Max Common Path of Egress Travel Distance (ft)			
٨	40				
R	49	100 (sprinkled)			
<pre><insert classification="" each="" for="" occupancy=""></insert></pre>	45				
sinsert for each occupancy classification >					
EXIT TRAVEL DISTANCE (Table 1017.2)					
Occupancy					
	Max travel distance w/ Sprinkler System (ft)				
A	Max travel distance w/ Sprinkler System (ft) 250				
A B	Max travel distance w/ Sprinkler System (ft) 250 300				
A B <insert classification="" each="" for="" occupancy=""></insert>	Max travel distance w/ Sprinkler System (ft) 250 300				
A B <insert classification="" each="" for="" occupancy=""> <insert classification="" each="" for="" occupancy=""></insert></insert>	Max travel distance w/ Sprinkler System (ft) 250 300				
A B <insert classification="" each="" for="" occupancy=""> <insert classification="" each="" for="" occupancy=""></insert></insert>	Max travel distance w/ Sprinkler System (ft) 250 300				
A B <insert classification="" each="" for="" occupancy=""> <insert classification="" each="" for="" occupancy=""></insert></insert>	Max travel distance w/ Sprinkler System (ft) 250 300				
A B <insert classification="" each="" for="" occupancy=""> <insert classification="" each="" for="" occupancy=""> MINIMUM CORRIDOR WIDTH (Table 1020</insert></insert>	Max travel distance w/ Sprinkler System (ft) 250 300 250 250 250 250 250 250 250 250 250 2				
A B <insert classification="" each="" for="" occupancy=""> <insert classification="" each="" for="" occupancy=""> MINIMUM CORRIDOR WIDTH (Table 1020 Occupancy</insert></insert>	Max travel distance w/ Sprinkler System (ft) 250 300 250 250 250 250 250 250 250 250 250 2				
A B <insert classification="" each="" for="" occupancy=""> <insert classification="" each="" for="" occupancy=""> MINIMUM CORRIDOR WIDTH (Table 1020 Occupancy A</insert></insert>	Max travel distance w/ Sprinkler System (ft) 250 300 250 250 250 250 250 250 250 250 250 2				
A B <insert classification="" each="" for="" occupancy=""> <insert classification="" each="" for="" occupancy=""> MINIMUM CORRIDOR WIDTH (Table 1020 Occupancy A B</insert></insert>	Max travel distance w/ Sprinkler System (ft) 250 300 20 20 20 Minimum Width (in) 44 44				
A B <insert classification="" each="" for="" occupancy=""> <insert classification="" each="" for="" occupancy=""> MINIMUM CORRIDOR WIDTH (Table 1020 Occupancy A B <insert all="" applicable="" are="" that=""></insert></insert></insert>	Max travel distance w/ Sprinkler System (ft) 250 300 20 20 Minimum Width (in) 44 44 44				
A B <th>Max travel distance w/ Sprinkler System (ft) 250 300 20 20 20 20 20 20 20 20 20 20 20 20 2</th> <th></th> <th></th>	Max travel distance w/ Sprinkler System (ft) 250 300 20 20 20 20 20 20 20 20 20 20 20 20 2				



PROGRAM and REGULATORY REQUIREMENTS

BUILDING CODE ANALYSIS (IBC & FBC)

Automatic Sprinkler System	Yes
Building Height and Number of Stories permitted	UH
ACTUAL Building Height and Number of Stories	Height 7
Type(s) of Construction permitted (IBC)	Type 1 a
ACTUAL Type(s) of Construction Proposed (IBC)	3-hours
INSERT Description	
Maximum area of any single floor permitted	UH
ACTUAL Maximum area of any single floor	Area: 48

EGRESS SYSTEM (PROPOSED)

Maximum Travel Distance to Exit Minimum Distance Between Exits Maximum Common Path of Egress Travel Largest Area with Single Exit Maximum Length Dead-end Corridor Door Width

Corridor Width

Yes UH Height 75 feet 03 floors Type 1 and 2 3-hours Type 1-A

UH Area: <u>48000</u> square feet

300 feet
89 feet
100 feet
49 Occupants
20 feet
Minimum 32 inches
Maximum 48 inches
Minimum 44 inches





PLUMBING FIXTURE CALCULATIONS

(FBC Table 2902.1)						
Fixture	Fen	nale	M	ale	Single	e User
	# Required	# Provided	# Required	# Provided	# Required	# Provided
Water closet	16	16	8	8	4	
Urinals			8	8		
Lavatories	10	12	12	12	4	
Showers	n/a	n/a				
Service					•	
	# Required	# Provided	-			
Service Sinks	1	1	-			
Drinking Fountains	15	18	1			



PROGRAM and REGULATORY REQUIREMENTS

ACCESSIBLE ACCESS ROUTE



LIFE SAFETY PLANS





NARRATIVES

Structural System Selected

Existing primary structure – brick masonry walls

New primary structure - structural frame including columns, girders, and

trusses.

HVAC System Selected

CENTRAL ALL-AIR SYSTEMS: SINGLE DUCT, VARIABLE AIR VOLUME (VAV)

Description

Air is conditioned (mixed with a percentage of outdoor air, filtered, heated or cooled, and humidified or dehumidified) at a central source. Supply and return fans circulate the conditioned air through ducts to the occupied spaces of the building. At each zone, a thermostat controls room temperature by regulating the volume of air that is discharged through the diffusers in that zone.

Typical Applications

VAV is the most versatile and most widely used system for heating and cooling large buildings.

Advantages

This system offers a high degree of local temperature control at moderate cost. It is economical to operate and virtually self-balancing.

Disadvantages

VAV is limited in the range of heating or cooling demand that may be accommodated within a single system. When one area of a build-

168 ing needs heating while another needs cooling, a VAV system cannot serve both areas without help from a secondary system (see Variations, following).

Major Components

Boilers and chimney, chilled water plant, cooling tower, fan room, outdoor fresh air and exhaust louvers, vertical supply and return ducts, horizontal supply and return ducts,



SINGLE DUCT, VARIABLE AIR VOLUME (VAV)

From Edward Allen + Joseph Iano, The Architect's Studio Companion: Rules of Thumb for Preliminary Design.

HVAC Zoning Diagram





BUILDING INTEGRATION



ENVELOPE



HVAC SYSTEM



STRUCTURAL



GROUND



SECTION TWO: PORTFOLIO

DESIGN CONCEPT DEVELOPMENT + PROJECT PROPOSAL



DESIGN CONCEPT DEVELOPMENT

The Parramore Ballet Center project is the new center for dance in the Creative Village area, downtown Orlando. The building, a combination of new and old, keeps in its essence physical and abstract features of Orlando's former performance theater, Bob Carr. The total built area is of 50,000 square feet and is dedicated to the teaching, practice, and performance of ballet, and to the instruction of stage and costume design. The building also features two small theaters, for students and guests' performances. However, the project mainly strives to become a gathering, social, and cultural place for the surrounding community, mainly for Parramore's children and adolescents residents, to fulfill the lack of inclusive cultural activities in the area. Parramore Theatre Dr. Phillips Center for the Arts. Therefore, Parramore Ballet Center becomes then an extension of the street level, engaging the community and those walking by through its informal, open, and inviting architecture within a people-centric approach.



PRECEDENTS

The ballet studios and ballet centers were useful to identify dimensions and how artificial and natural light are used employed in these spaces. Curtain walls inspired the design as the goal was for the building to have see-through moments. Images of atriums were used to create an informal, inviting space.



English National Ballet / Glenn Howells Architects, London, UK



Tesa 105 Conversion / Estudio N, Italy





The Commons, Bangkok, Thailand. Wongwan / W Workspace



Pace Gallery – New York City -Bonetti/Kozerski Architecture



CENTRE AQUATIQUE DE L'ESTUAIRE AQUAPARC, FRANCE, Coste Architectures - France



English National Ballet / Glenn Howells Architects, London, UK



QUERKOPF ARCHITEKTEN ARCHITECTURE OFFICE · GERMANY

















PROJECT PROPOSAL





























