

Provost Immersive Learning Grant

Project Title: Using Nature to Redesign Places of Worship in
Muncie, IN

Spring 2021 Work: Post Occupancy Evaluation

Site: Islamic Center of Muncie

(5141 Hessler Rd, Muncie, IN 47304)

Project Director: Dr. Sarah Angne Alfaro, Interior Design

Co-Project Director: Dr. Sherif Atallah, Construction Management

Student Team Members: Jalyn Bowie, Corrionna Sivils, Kayla
Brownie, Asia Muhammad, Hayley Laker & Ethan Lee, Interior Design

Emily Kirby, Alex Angle, Joe Huff & Kenny Mills, Construction
Management

Table Of Contents

Project Background.....	2
Site/ Building Description.....	3
Site Drawings.....	5
Observations.....	9
1. Physical Conditions	
2. Space	
3. Ergonomics	
4. Aesthetics	
5. Biophilia	
6. Overall Satisfaction	
Photos.....	19
Questionnaire.....	31
Recommendations.....	32

Project Background

This project integrates the environment, economy, and society to develop more sustainable and healthy places of community worship. Adhering to the professional code of ethics for interior design and construction management (health, safety, and welfare), 120 undergraduate students from the Interior Design (ID) and Construction Management (CM) programs will manage an active, engaged, learner-centered environment as they explore Muncie's diversity of cultures and faith traditions to redesign two places of worship in an environmentally sustainable manner.

-Spring 2021: Students from the sophomore IDES 225 History of Interior Design class (a required course in the Interior Design major) and students from CM 262 Electrical Construction (a required course in the Construction Management major) will conduct observations and develop a post occupancy evaluation at two places of worship in Muncie: Islamic Center of Muncie (ICM) and Riverside United Methodist Church (RUMC).

-Fall 2021: Students from IDES 225 will advance to the junior-level course IDES 325 Interior Design Studio 3 (another required course) and partner with new sophomore students from CM 261 Mechanical Construction (another required course in the Construction Management major) to redesign both ICM and RUMC. The student teams, composed of both interior design and construction management students, will present their findings and solutions to both communities of congregants for feedback. The top two teams with the most successful design solutions, based on the congregant committee vote, will adapt their designs/findings into conference abstracts for presentation submissions to a peer-reviewed conference: The Association of Technology, Management, and Applied Engineering National Conference (November 2021).

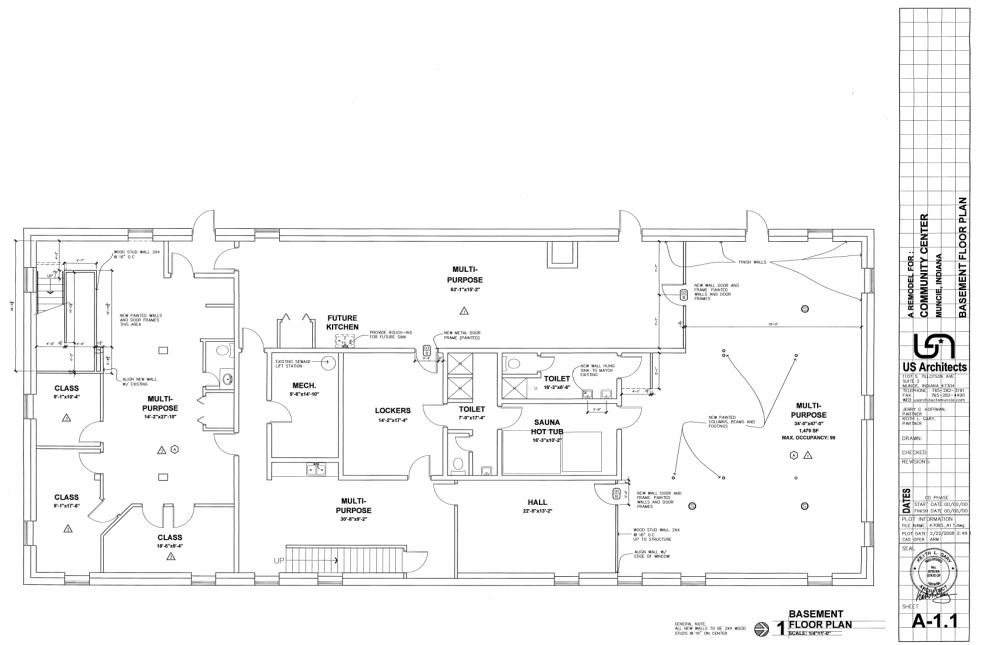
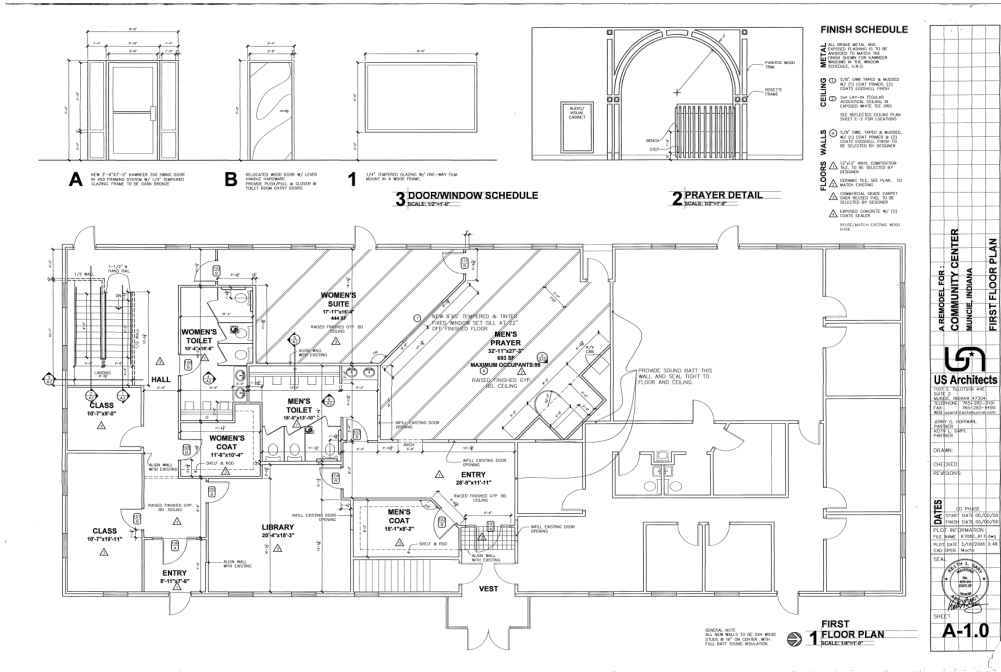
Site/Building Description

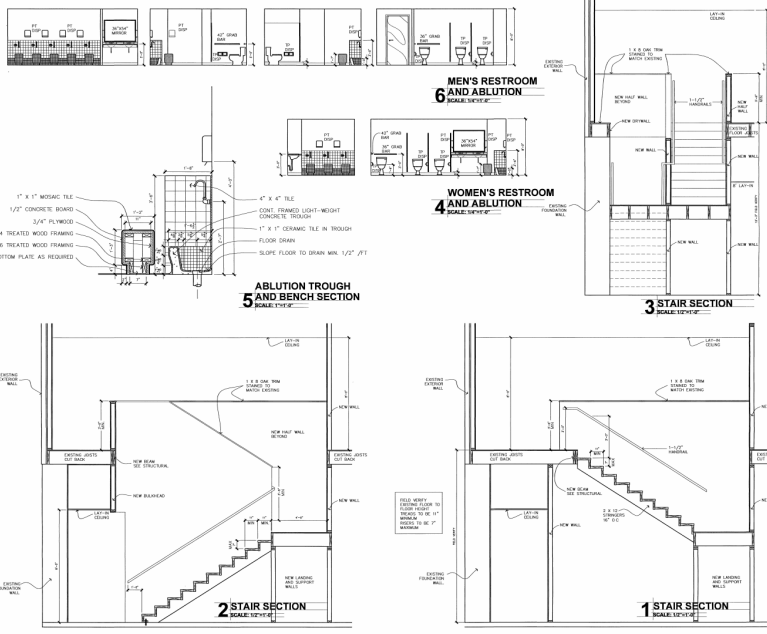
The Islamic Center of Muncie lies along W. McGalliard Rd. in Muncie, Indiana. The site consists of a large parking lot adjacent to the road. Other buildings in the area around the Islamic center include Goodwill, a Marathon gas station, and a Taco Bell. The building overall is built from brick, and holds several symmetrical windows. The front facade of the building consists of a large concrete awning with the name of the building attached to it. From the parking lot, there is no ramp connected to the front entry of the building. The ramp is located in the back of the building, which provides an accessible, but inconvenient entrance into the Center.

Upon entry into the building, one is met with a plant-filled vestibule. This is one of the few places where real plants are seen throughout the building, although there are a collection of fake plants scattered around the Center. The vestibule also features entry into a storage room to keep your personal items whilst attending a religious service or simply visiting. Continuing through the vestibule, the front room is entered. This room is decorated with beautiful rugs and ornamental art pieces depicting Islamic symbols on the walls. This room leads into 2 separate areas, one being an office, and the other leading to the worship area of the Islamic Center. The office area features a large table and a massive bookshelf along the back wall. The space is decorated with more art pieces, as well as a model of the center itself. Continuing on into the rest of the building, one is met with a hallway that leads directly into several other areas of the center, those being a couple more offices and the main restroom for patrons of the building. The restroom contains 3 stalls and a space in which patrons can wash their feet before entering the worship space. The hallway containing the restrooms also leads into the worship area, which consists of two different rooms to separate the men and women's worship area.

Continuing downstairs, one is met with somewhat of a labyrinth of a basement in the bottom floor of the center. The stairwell ends in a large communal area containing several classrooms. These classrooms are all quite small, and a couple of them have two entrances into the room mere feet from each other. These rooms are painted in one solid color, with each room being a different color from one another. Across from the classrooms is an extremely small bathroom, with an entrance much too small for anyone to comfortably pass through. Continuing, one is met with the breaker room, which holds no drywall, which could cause a potential safety hazard if not fixed. Moving from the breaker room, a large communal room

containing several dining tables is found. This leads into a kitchen featuring 4 sinks and a nice island space. The doorway in the kitchen leads into a multipurpose room featuring folding chairs and folding tables. Leaving this space and traveling back into the communal space with more tables, one can travel into another hallway that leads to more offices and an unused kitchenette at the end of the hall. This kitchenette is overall unnecessary to the building, and hosts a few design flaws, such as a large hole in the countertop.





REVISIONS

DATE

BY

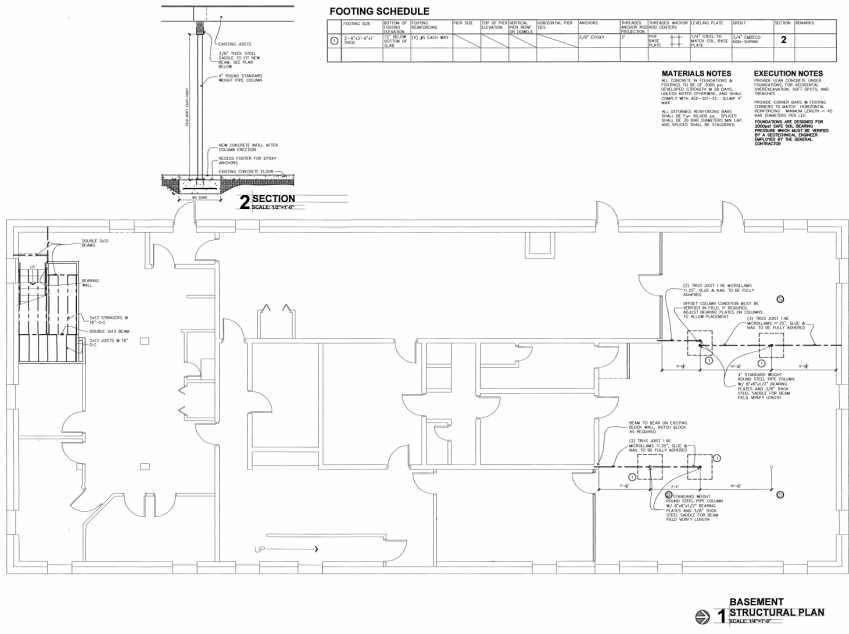
CHKD

APP'D

US Architects

1000 N. UNIVERSITY BLVD
INDIANAPOLIS, IN 46202
TEL: 317.634.1234
WWW.USARCHITECTS.COM

PROJECT: COMMUNITY CENTER
SHEET: A-2



REVISIONS

DATE

BY

CHKD

APP'D


US Architects

1000 N. UNIVERSITY BLVD
INDIANAPOLIS, IN 46202
TEL: 317.634.1234
WWW.USARCHITECTS.COM

PROJECT: COMMUNITY CENTER
SHEET: S-1.1

Observations

**indicates CM students helping fill in data*

<p>Physical Conditions</p>	<p>Temperature/Thermal Comfort*, Light (Natural/Artificial)*, Noise/Acoustics, Air Quality/Ventilation*, Safety, Trash removal.</p> <hr/> <p>~ Very hot on the first level when entering the building</p> <p>~ Cold in the basement</p> <p>~ The lighting within the whole building was decent. Upstairs it was kind of dull, the basement had Fluorescents. *see Page 24 for photo </p> <p>~ Noise wise was okay.</p> <p>~ Air quality seemed bad, just off.</p> <p>~ Safety was definitely an issue.</p>
<p>Space</p>	<p>Building Layout, Privacy, Correct Amount, Accessibility, Inclusivity.</p> <hr/> <p>~ There is no accessible access to the basement or to enter the building at all. *see Page 28 for photo*</p> <p>~ The layout of the building was not ok. Just very off, and not designed correctly.</p> <p>~ There was no amount of access, accessibility or inclusivity.</p>

Ergonomics	<p style="text-align: center;">Furniture, Controls</p> <hr/> <p>~ Furniture definitely needs some upgrading. Very outdated.</p> <p>~ Controls were unsafe, children wise. There was a control system right off of the play room and classrooms for the children that they could easily access. *see Page 22 Photos 1 and 2*</p> <p>~ Limited panels</p> <p>~ Professor says he wants to expand their solar paneling that they have currently.</p>
Aesthetics	<p>Floors/Walls/Ceilings, Furnishings, Equipment, Color, Quality, Durability</p> <hr/> <p>~ Finishes were very chaotic, different ones in every single room. *see bottom of Page 24 for photos*</p> <p>~ Furnishings were outdated.</p> <p>~ Equipment was very limited.</p> <p>~ Color/Quality was very dull. Only color was in the classrooms, the colors very bright (orange, yellow etc.) *see Page 23 for photo*</p> <p>~ Durability was okay, definitely needs some adjustments very soon.</p>

<p>Overall Satisfaction</p>	<ul style="list-style-type: none"> ~ Place was very outdated. ~ Was not aesthetically pleasing at all. ~ slightly eerie in places, very dull. ~ Was not inviting/welcoming.
<p>Biophilia</p>	<p style="text-align: center;">Environmental Features, Natural Shapes + Forms, Natural Patterns + Processes, Light + Space, Place-Based Relationships, Evolved Human-Nature Relationships</p> <hr style="width: 50%; margin: auto;"/> <ul style="list-style-type: none"> ~ Lacking greenery/biophilia. ~ Had lots of wood, which was very earthy. ~ Plants were fake.

**indicates CM students helping fill in data*

<p>Physical Conditions</p>	<p>Temperature/Thermal Comfort*, Light (Natural/Artificial)*, Noise/Acoustics, Air Quality/Ventilation*, Safety, Trash Removal.</p> <hr/> <ul style="list-style-type: none">● A tad hot on upper level(may be uncomfortable with warm clothing on)● Lighting is a little dull● Foyer has bad lighting● Basement looks unfinished in some areas● Air quality not consistent throughout entire building● Can hear foot step from above (not the greatest acoustics)● Downstairs/basement bathroom too small (does not seem to meet basic ADA requirements.) *see Page 23 Photo 3*● Entrance steps are steep *see Page 28 for photos*
<p>Space</p>	<p>Building Layout, Privacy, Correct Amount, Accessibility, Inclusivity.</p> <hr/> <ul style="list-style-type: none">● Upper level bathroom is a nice size *see Page 30 for photos*● A lot of doors (not very inclusive or accessible)● Accessibility- No ramps outside for wheelchair users, Sharp corners, No way to get downstairs if you are wheelchair bound or can not walk● Kids play area can be unsafe (Floor is hard and can cause injuries)● Bathroom in the basement is badly designed (door is too narrow and not accessible) *see Page 23 Photo 3*

Ergonomics	<p style="text-align: center;">Furniture, Controls</p> <hr/> <ul style="list-style-type: none">● Furniture is a little old● Lots of wood furnishings● Outdated furniture
Aesthetics	<p>Floors/Walls/Ceilings, Furnishings, Equipment, Color, Quality, Durability</p> <hr/> <ul style="list-style-type: none">● Colors are bland throughout the building except for kids learning rooms. *see Page 27 for photos*● Colors in kids rooms are very bright and can possibly be distracting.(orange, Blue, Etc)● furnishings/finishes are inconsistent and changes a lot throughout the building. *see bottom of Page 24 for photos*

<p>Overall Satisfaction</p>	<ul style="list-style-type: none"> ● Needs updated furniture and finishings ● Accessibility needs to be incorporated (almost non existent) ● Air quality not consistent throughout entire building (can be uncomfortable) ● Cold in basement *see Page 19 Photos 1 and 2*
<p>Biophilia</p>	<p>Environmental Features, Natural Shapes + Forms, Natural Patterns + Processes, Light + Space, Place-Based Relationships, Evolved Human-Nature Relationships</p> <hr/> <ul style="list-style-type: none"> ● There are more plants and biophilia upstairs than downstairs. ● Some plants were fake *see Page 27 Photo 3* ● There was a lot of wood which gives the space a natural feel ● Most of the plants were in the vestibule

**indicates CM students helping fill in data*

Physical Conditions	<p>Temperature/Thermal Comfort*, Light (Natural/Artificial)*, noise/acoustics, Air Quality/Ventilation*, Safety, Trash Removal.</p> <hr/> <ul style="list-style-type: none">● Bad insulation/cold in basement● Echoes throughout area● Decent flooring, but a lot of variation *see bottom of Page 24 for photos*● Too many light fixtures in kitchen portion of multi-purpose room in basement *see Page 20 for photos*
Space	<p>Building Layout, Privacy, Correct Amount, Accessibility, Inclusivity.</p> <hr/> <ul style="list-style-type: none">● Classrooms are a little small● EXTREMELY small bathroom (not accessible at all)*see Page 23 Photo 3*● Certain classrooms have two entrances directly adjacent to each other● Hard to Navigate overall● No Wheelchair access

Ergonomics	<p style="text-align: center;">Furniture, Controls</p> <hr/> <ul style="list-style-type: none"> ● No “adult” chairs in classrooms ● Very open, needs more furniture in common space ● Fire egress compromised in front entrance
Aesthetics	<p>Floors/Walls/Ceilings, Furnishings, Equipment, Color, Quality, Durability</p> <hr/> <ul style="list-style-type: none"> ● Nice flooring in this space ● Classrooms all one solid BRIGHT color ● Bathroom in basements needs updating *see Page 25 Photo 1* ● Common-area is very blank, needs something ● Lacks the charm of the upstairs area ● Extreme difference between classrooms and the rest of the building

<p>Overall Satisfaction</p>	<ul style="list-style-type: none"> ● Room Design could be much better ● Room colors work for accent walls ● Flooring is sufficient ● Bathroom in basement near children's classrooms needs to be larger ● Overall Aesthetic needs something
<p>Biophilia</p>	<p>Environmental Features, Natural Shapes + Forms, Natural Patterns + Processes, Light + Space, Place-Based Relationships, Evolved Human-Nature Relationships</p> <hr/> <ul style="list-style-type: none"> ● Clerestory windows in the basement *see Page 24 Photo 1* ● Wood Finishes

<p>Thermal Conditions</p>	<p>Measurements and Notes</p> <p><i>~ There is a lot of air leakage near doors and windows. Can feel air movement.</i></p> <p><i>~ The electric panel circuit breaker for the kitchen lights is reading hot.</i></p> <p><i>~ Back room in the basement is very cold/letting in a lot of outside air.</i></p>
<p>Lighting Conditions</p>	<p>Measurements and Notes</p> <p><i>~ Meeting room/bathroom/halls/offices - fluorescent 2x4</i></p> <p><i>~ Some LED in stairway/entry to basement</i></p> <p><i>~ Appliances are outdated/older</i></p> <p><i>~ Most rooms 70/80 lux</i></p> <p><i>~ Kitchen too bright to measure</i></p> <p><i>~ Solar power on roof. 15 panels</i></p>

Photos



Thermal Camera readings. The blue readings are showing how poor the insulations are, these are readings from downstairs.



Kitchen in Basement Part of a Multi-Purpose Room - too many light fixtures



Small Kitchenette in another part of Basement



Multipurpose Room on North End of Basement - very spacious



Breaker Panels downstairs - easily accessible to anyone (not good)



View into Women's praying area



View outside from West side of building - able to see nature



View of Parking lot looking North



One downstairs Bathroom - extremely small



Small closet next to bathroom holding some mechanical equipment - across from children's classrooms and doors are easily opened (not very safe)



Clerestory windows throughout basement



Ceiling in portion of multi-purpose room



Variations in the flooring throughout the whole building





Showers in downstairs bathroom/sauna



View of multiple rear entrances

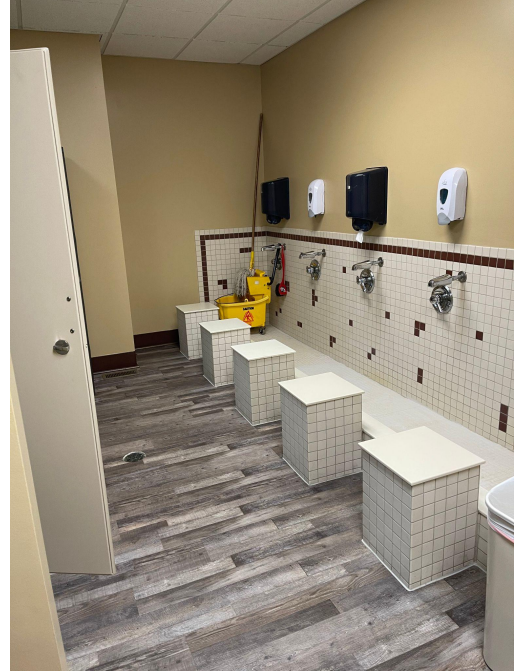


Men's coat closet right off foyer/entrance



View of foyer/lobby area

View into upstairs men's restroom/ foot wash stations



In foyer looking South with entrance into men's praying area to the right



Hallway space showing some of the plants and decor used



Exterior shots of the building (East side- main entrance)
Step steps to approach main doors



Rear side of building (West side)



More exterior shots of the front of building (East side)



Rear side of building - has a ramp for wheelchair accessibility



Door knob to room with electrical panels - does not have a lock so anyone can open it at anytime



Women's upstairs restroom/ foot wash station

Questionnaire

1. Are you happy with the layout of the building?
2. Does the heating and cooling throughout the building seem consistent?
3. Do you notice that the air quality is better all throughout the building?
4. Do you have any physical limitations, if so are those challenged by the layout of the building/design?
5. How does this space make you feel overall?
6. Do you feel productive and comfortable in this building?
7. Is there enough biophilia (plants) in space? Should there be more or less?
8. How do you feel about the colors of the walls and choices of furniture? What would you change?
9. Do you feel safe inside the building?
10. Is it easy to navigate throughout the building and find what you may be looking for?

Extra Comments:

Recommendations

- Make the space more accessible
- Implement easier way-finding elements
- Add insulation in basement / colder areas throughout
- Add more biophilic elements
- Add more solar panels
- Implement cohesive finishes / update furnishings