

Amelia Island Mosquito Control District Lab Renovation

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Overview

- Purpose of this presentation
- About AIMCD
- Issues with our old lab and planning
- Renovation process
- Challenges and solutions
- Equipment and costs

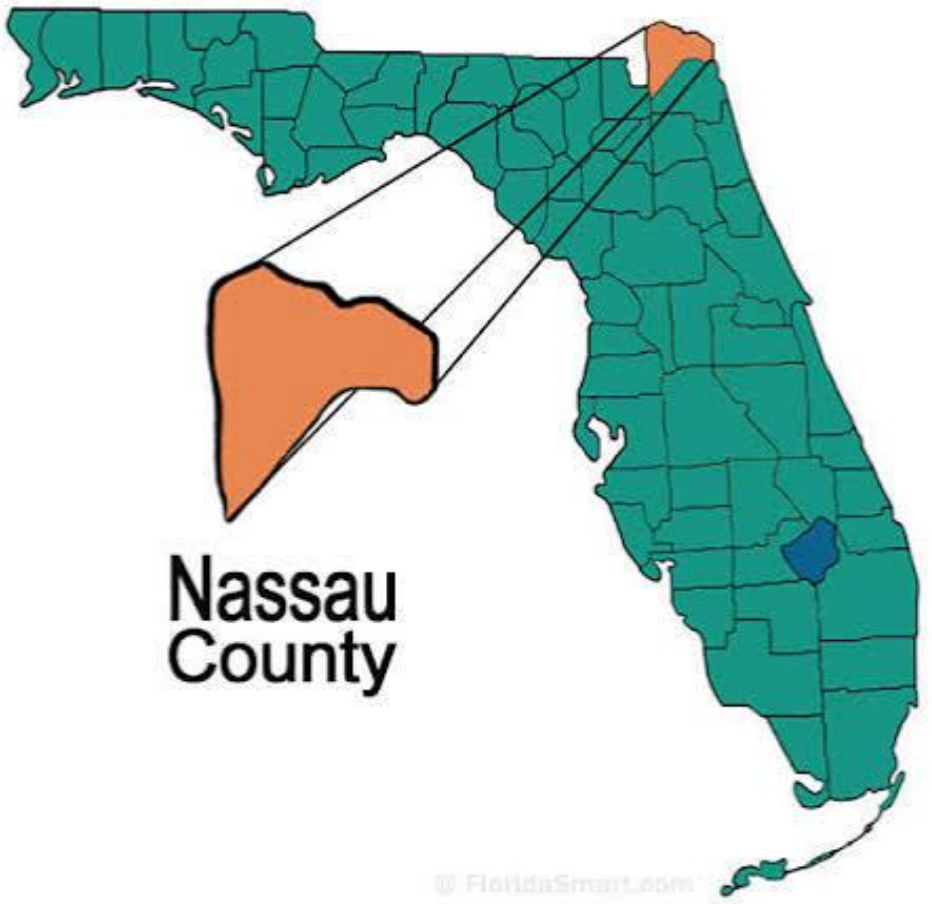


Purpose of this talk

- Share our experience
- Become a resource to other districts
- Show that a lot can be done with very limited budget

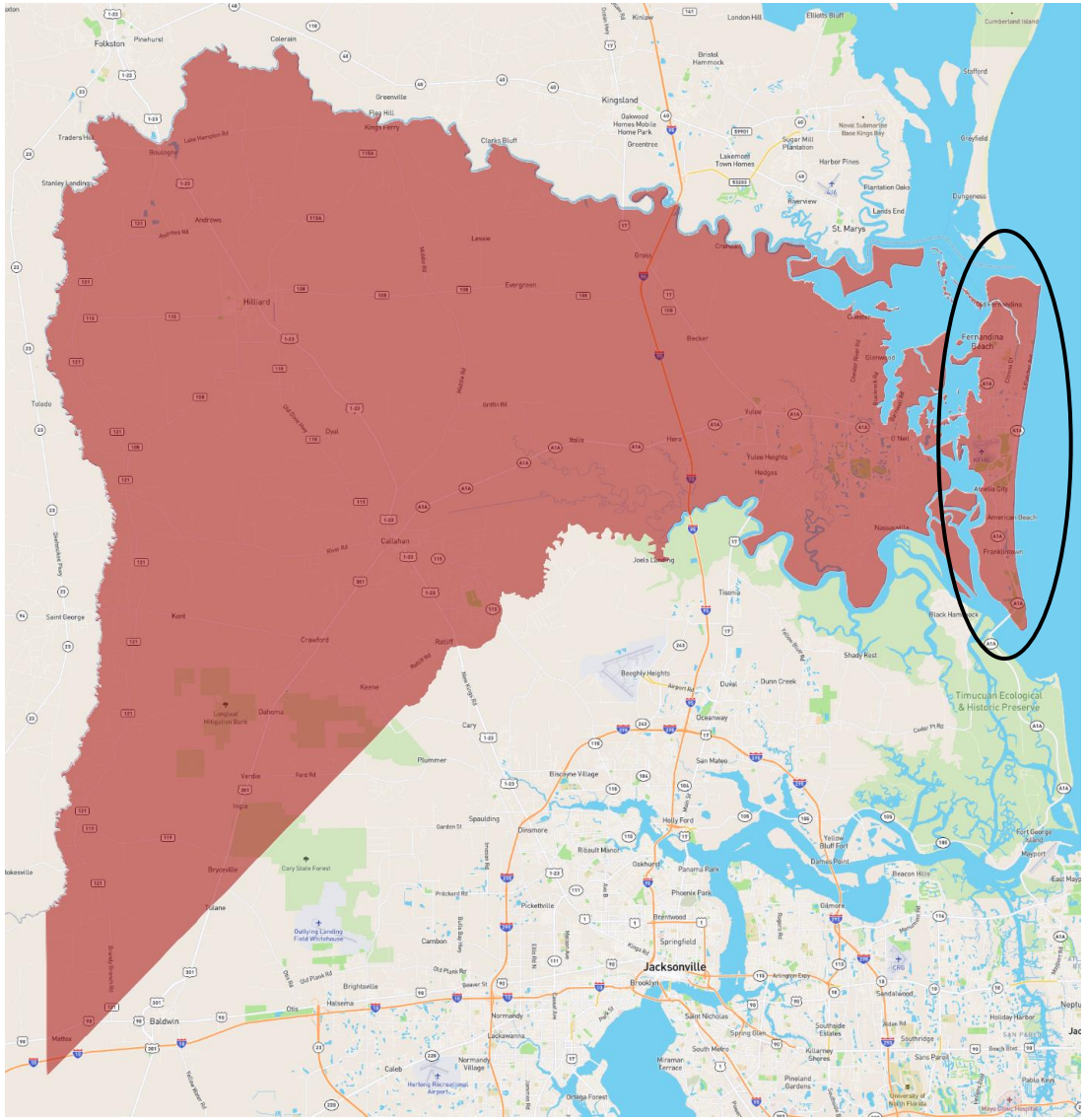
AIMCD

- Located in Nassau County
- Founded 1951
- Special Taxing District
- Approximately $1,000,000 budget



Nassau County/ Amelia Island

- Only mosquito control district in the county
- Responsible for small portion
- 13 miles long and 2 miles wide
- Approximately 18 square miles
- 7 employees



Why Upgrade the Lab?

- Strong desire to enhance surveillance program
- Current lab set up could not support modern molecular techniques
- Wanting to incorporate PCR and ELISA protocols
- More cost effective than building a brand new one



What Was Wrong With the Old Lab?

- Built in 2009 mainly for mosquito identification
- Very limited capabilities
- Open door policy
- Improper flooring



Old Wash Station

- Cluttered countertops
- Random items stored in cabinets and on countertops
- Sink had rust built up



Old Mosquito Sorting and I.D. Station

- Neither station is dedicated
- Workflow is undefined
- Lab was also used as an office
- Cloth office chairs
- Desks were grainy and held onto dirt



Old Lab Bench and Rear Entry Door

- Corian countertops as lab benches
- Improper storage
- Temperature dependent pesticides were also kept in these cabinets
- Back door led to locker room, bathrooms, and washroom
- Heavy foot traffic by non lab personal



Old Storage Closet

- Miscellaneous storage:
  - Old electronics
  - Totes
  - Office supplies
  - Holiday decorations
- Took up vital space



Light Trap Closet

- Closet used to store various traps and trap parts
- Cluttered and unorganized



Lack of Protocols and Rules

- Deer head was stored in lab freezer
- Common practice under previous protocols and rules
- If something needed to be stored somewhere, it usually ended up in the lab



New Lab Needs:

- Appropriate flooring
- Chemical resistant lab benches
- Upgraded equipment
- Reorganize lab for better workflow
- Limited access
- Incorporate lab and safety protocols
- Modern color scheme

Renovations Begin January 5th, 2026

- Furniture removed
- Closets cleared out
- Baseboards removed
- Trim removed
- Cabinets removed
- Sink removed





Flooring

- Tile removed with hammer and chisel by AIMCD staff
- Labor intensive
- Time consuming
- Painful
- Sharp tile shards



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Flooring

- Demo hammer to remove thinset
- Cumbersome
- Loud
- Vibrations
- Ventilation issues



Flooring

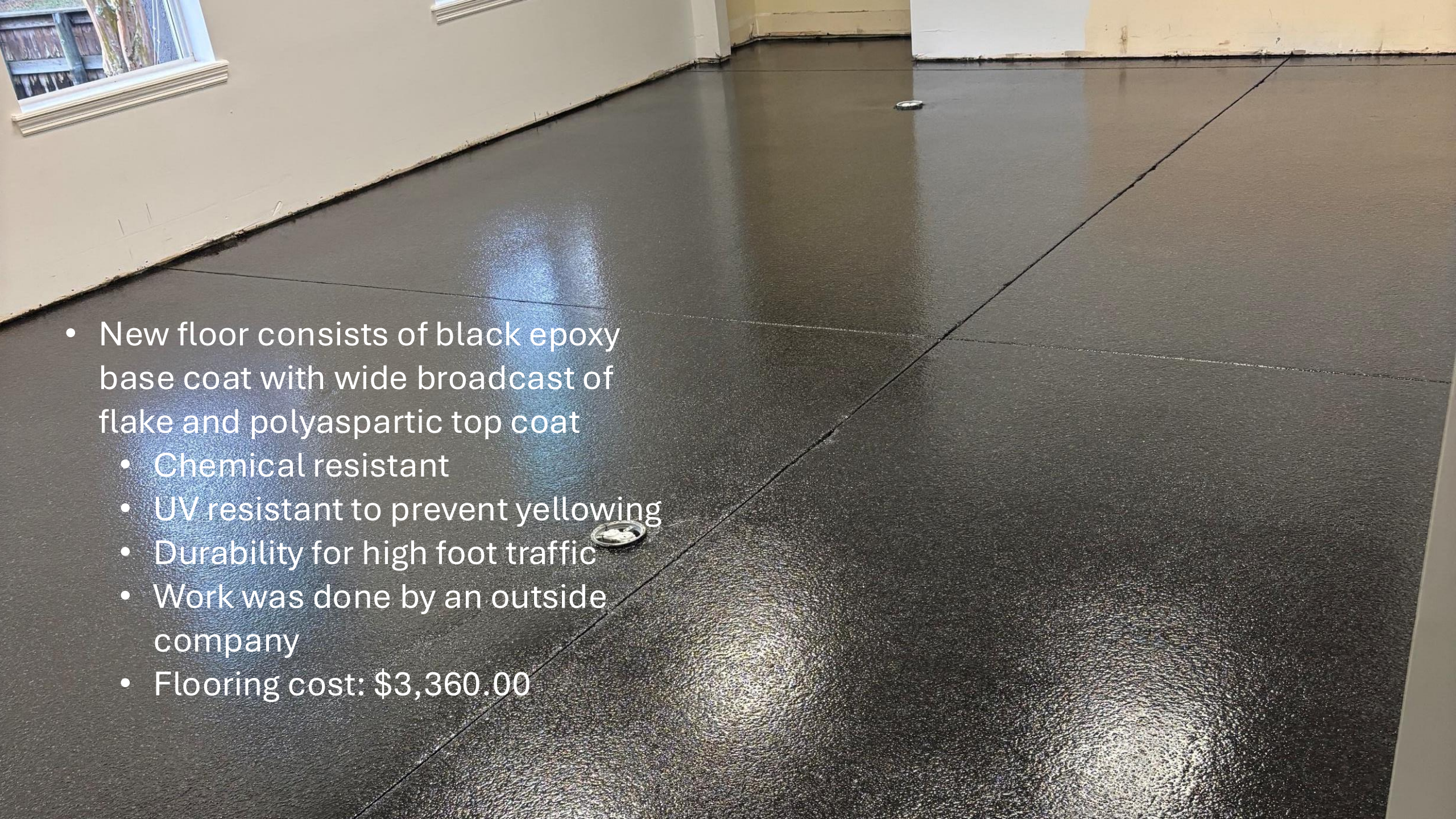
- Very messy
- Every room in the main building got covered in dust
- Tedious cleanup



Flooring

- Once thinset was removed, the concrete was ground down and filled before laying new floor

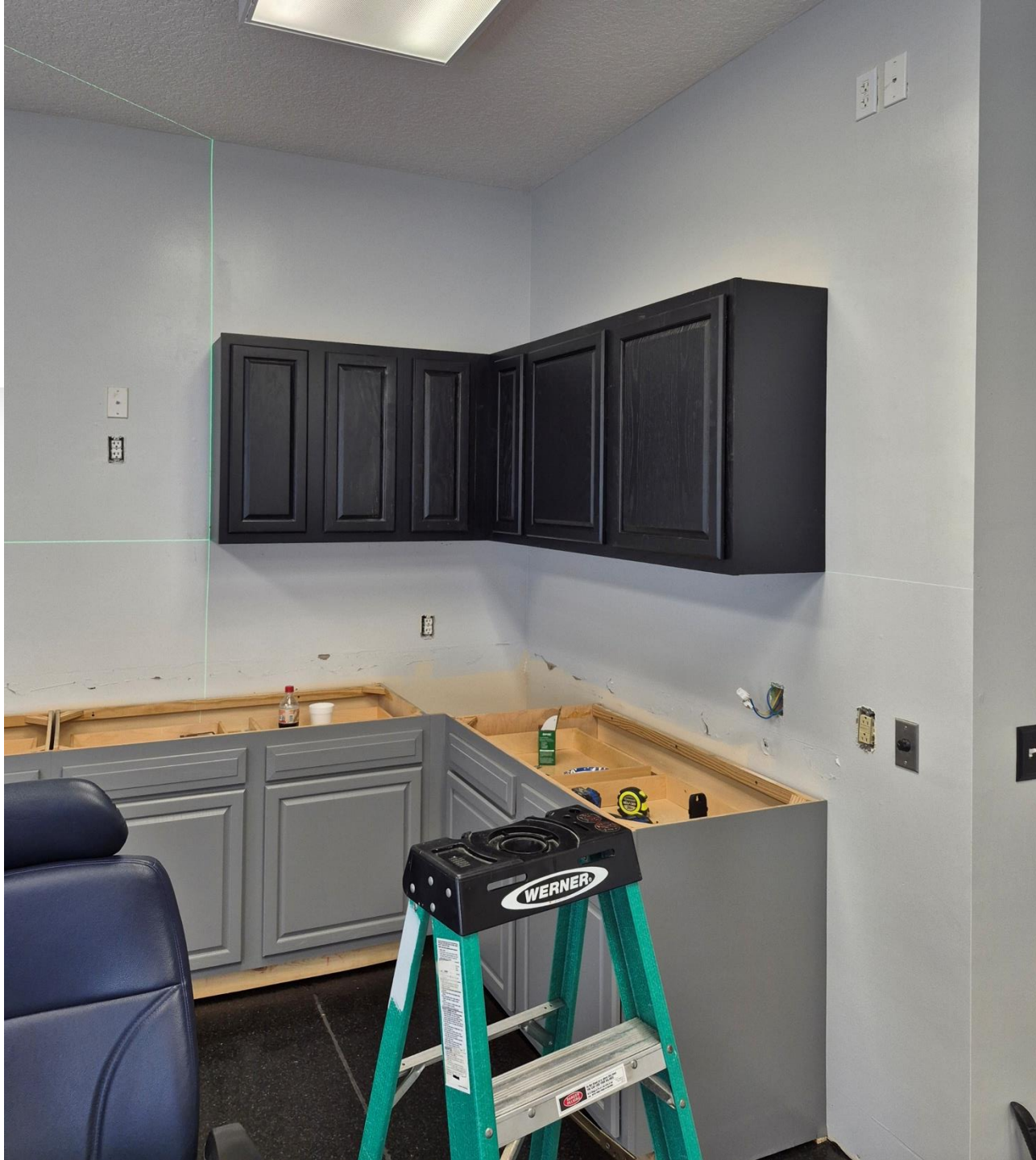




- New floor consists of black epoxy base coat with wide broadcast of flake and polyaspartic top coat
  - Chemical resistant
  - UV resistant to prevent yellowing
  - Durability for high foot traffic
  - Work was done by an outside company
  - Flooring cost: $3,360.00

Reinstall Cabinets

- Used laser level for accuracy
- Sanded and repainted the old cabinets
- Added handles to the cabinets and drawers
- Repositioned some cabinets for better storage access



Epoxy Countertop Coating

- Sanded and applied epoxy coating to old counter tops and desks
- Kits purchased from Stone Coat Countertops ($167.89)
- Three coats in total
- Matte black finish gave modern lab bench look
- Nonporous and chemical resistant





Rear Entry Door

- Originally was going to install metal self-closing door
- Keep locked at all times
- Rear door not needed
- Keep lab one way in and one way out



Wall off Rear Entry

- Replace door with a wall
- Significantly more affordable than purchasing a second self-closing metal door ($135.07 vs $881.00)



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Lab Entry Door Installation

- Easy installation
- Metal knockdown frame
- Purchased from Home Depot ($881.00)



New Lab Entry Door

- Self-closing
- 90-minute fire rated
- Viewing window
- Appropriate signage



Class II A2 Biological Safety Cabinet

- Esco Gen 4 Airstream®
- Cost: $5,495.00
- Purchased from GMI Lab Solutions
- Refurbished



Autoclave

- Tuttnauer 2340E
- Cost: $3,450.00
- Purchased from GMI Lab Solutions
- Refurbished



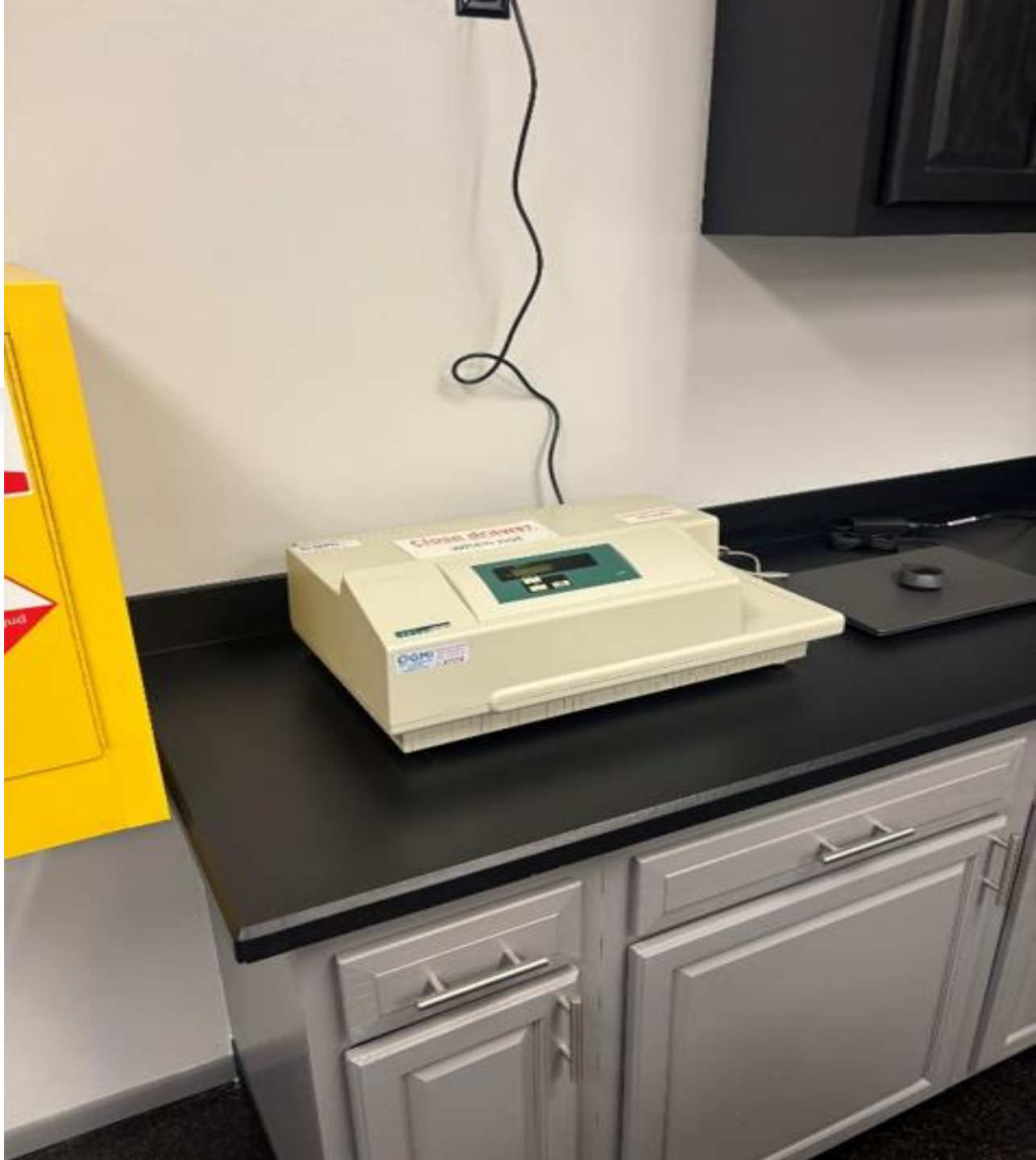
Freezer

- ABS 4.2 Cu. Ft, Stainless Steel Freezer
- Cost: $1,650.00
- Purchased from GMI Lab Solutions
- Brand New



Microplate Reader

- Molecular Devices VersaMax
- Cost: $5,495.00
- Purchased from GMI Lab Solutions
- Refurbished



Microplate Washer

- Awareness Technology Stat Fax 2600
- Cost: $3,164.00
- Purchased from GMI Lab Solutions
- Brand New



Old Lab Entrance

- Porous unsealed flooring
- Very limited capabilities
- Open door policy
- Hard to clean furniture



New Lab Entrance

- Durable and chemical resistant flooring
- Updated equipment
- Only authorized personnel
- Appropriate lab chairs made of polyurethane



Old Wash Station

- Cluttered countertops
- Random items stored in cabinets and on countertops
- Sink had rust build up



Current Wash Station

- Repurposed countertop
- Organized
- Added peg board for drying glassware
- Added autoclave ($3,450.00)
- Added subzero freezer to preserve samples ($1650.00)
- Chemical and biohazard spill kits stored here
- Moved eyewash station to sink
- New stainless-steel sink



Old Mosquito Sorting and I.D. Stations

- Neither station is dedicated
- Workflow is undefined
- Crowded the room



Current I.D. and ELISA Prep Station

- Organized space
- Dedicated stations
- Workflow defined
- Removed window blinds and tinted windows



Old Lab Bench

- Same countertop material
- RAMP testing conducted here
- Sharing space with ID station



Current Lab Bench

- Epoxy chemical resistant countertop
- Repurposed old desks for additional lab bench space
- Clear station boundaries
- Added firebox for flammable liquids ($175.00)
- Added Plate reader/ washer for ELISA
- Added a Class II A2 Biological Safety Cabinet ($5,495.00)



Old Storage Closet

- Miscellaneous storage:
  - Old electronics
  - Totes
  - Office supplies
  - Holiday decorations
- Took up vital space



Data Analysis Station

- Removed unnecessary storage
- Added desk and filing cabinets
- Desktop computer
- Space can be repurposed in the future







Cost Breakdown

- Original Budget: $19,920.00
- Equipment Plus Shipping : $13,110.54
- Flooring: $3,360.00
- Door: $881.00
- Miscellaneous: $2,422.87
- Total Spent: $19,774.41

Other Costs

- Microplate Reader: $5,495.00
- Microplate Washer: $3,164.00
- Shipping: $385.00
- ELISA kits: $1,570.00
- Total Additional: $10,614

Total Cost

$30,388.41

Acknowledgements

Dr. Benjamin Allen- Jacksonville Mosquito Control

Dr. Steven Peper- U.S. Airforce

Mike Riles- Central Life Sciences

Dr. Sarah McComic- AMCD

Edward Zeszutko- AMCD

Uvina Allen- AMCD



Questions?

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