



**Haywood County Detention Facility Expansion  
Presentation to the Board of Commissioners**

**March 24, 2022 – 6:30 pm**

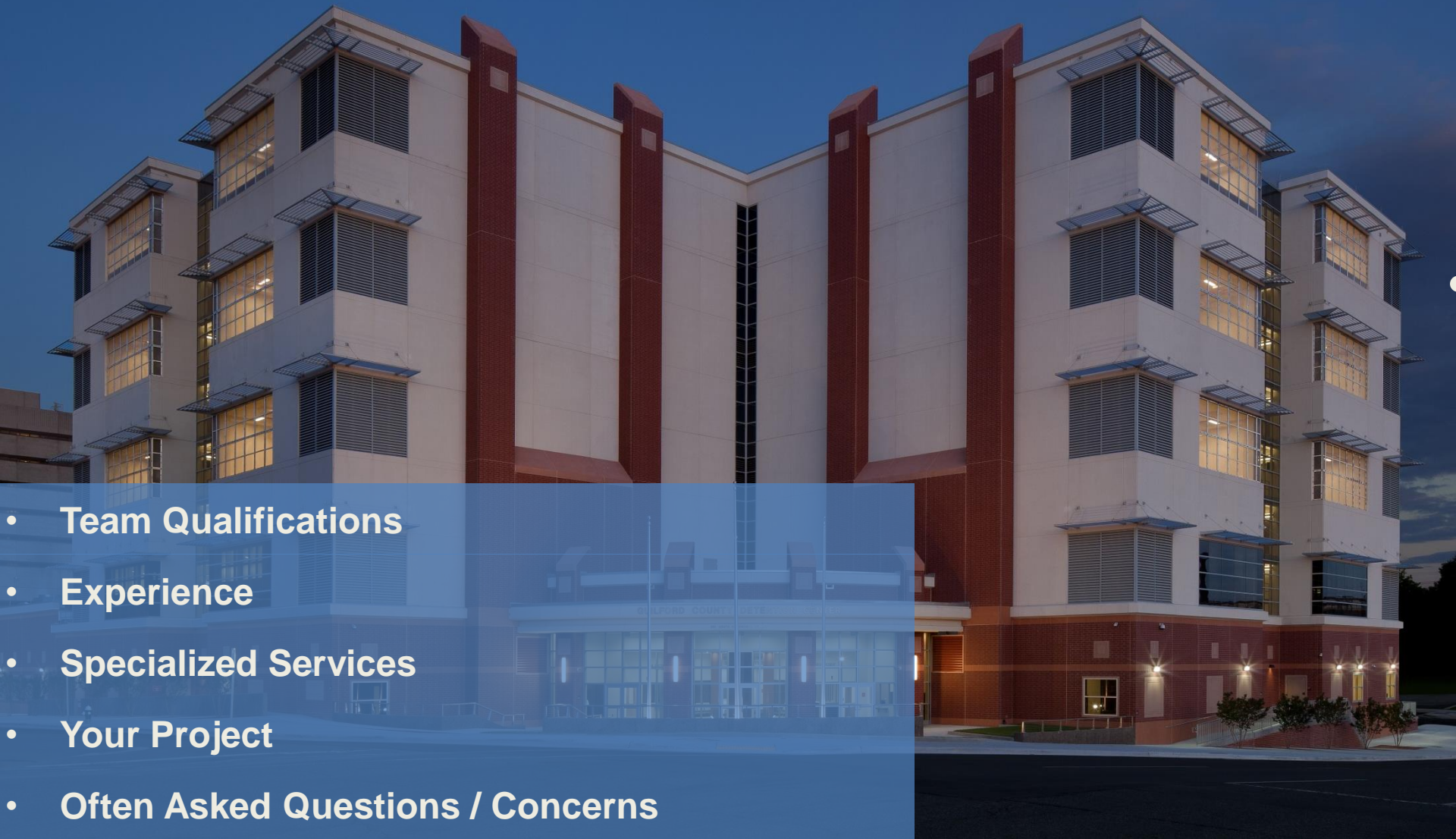
**MOSELEY**ARCHITECTS

*In Association With:*



# Agenda

- **Team Qualifications**
- **Experience**
- **Specialized Services**
- **Your Project**
- **Often Asked Questions / Concerns**



# Team Qualifications

## Haywood County

---

### MOSELEYARCHITECTS

Project Architect

Criminal Justice Planning and Development

Security Systems Design

Mechanical, Electrical, Plumbing Engineering

Structural Engineering

PREA Policy and Compliance

Interior Design

Energy Efficiency Analytics

Construction Contract Administration

---

McGill Associates

Civil / Site Engineering

Metts Consulting

Cost Estimation

# Team Qualifications



## MOSELEYARCHITECTS

- Founded in 1969, our firm has over **50** years of continuous practice
- Our Sector is focused on jail and correctional facilities – over **230** projects with over **18,300** secure beds in last 10 years
- Over **260** architects, engineers, jail specialists, and construction contract administration professionals
- **Fast-track** facility design experience
- Energy-efficient building specialists – over **135** LEED certified facilities
- **Performed your recent Jail Needs Assessment**



# BUILDING DESIGN + CONSTRUCTION

## top 25 GOVERNMENT SECTOR ARCHITECTURE FIRMS

**Correctional NEWS**  
design+construction+operations

SEPTEMBER/OCTOBER 2014 | VOLUME 20, NUMBER 6 | Embert MEDIA

**INSIDE**

Energy & Water Savings...30  
Facility of the Month...34  
Trade Files...39

**SUSTAINABLE JUSTICE**

**Currently Ranked #4 Justice Facility Architecture Firm in the US!**



Zoning required that the jail was designed with a commercial appearance and that it incorporated stone on the facade.

PROJECT DATA	
<b>RSW (RAPPAHANNOCK SHENANDOAH WARREN) REGIONAL JAIL</b>	
Facility Type:	New Construction
Construction Budget:	\$56 million
Number of Beds:	375
Area (square feet):	1,79,483
Start Date:	June 1, 2012
Completion Date:	June 2, 2014
Owner/Operator:	RSW Regional Jail Authority
Owner Representative:	Doug Stanley, Chairman of the RSW Regional Jail Authority; Christopher Webb, Correctional Consultant; James Martin, Owner's Representative for Construction
Architect:	Moseley Architects
Structural Engineer:	Moseley Architects
Mechanical/Electrical/Plumbing Engineer:	Moseley Architects
Civil Engineer:	PHR+A, A Pennoni Company
Food Service and Laundry Design:	Foodesign
General Contractor:	Howard Shockey & Sons
Detention Equipment Contractor:	Normet Security Group Inc.
Security Electronics Contractor:	Normet Security Group Inc.



Precast concrete cells were used for 218 (in both maximum- and medium-security housing) of the 375 beds.

## NON-INSTITUTIONAL DESIGN

The New RSW Regional Jail was Designed to Fit With the Community's Historic Character

By Jessie Fetterling



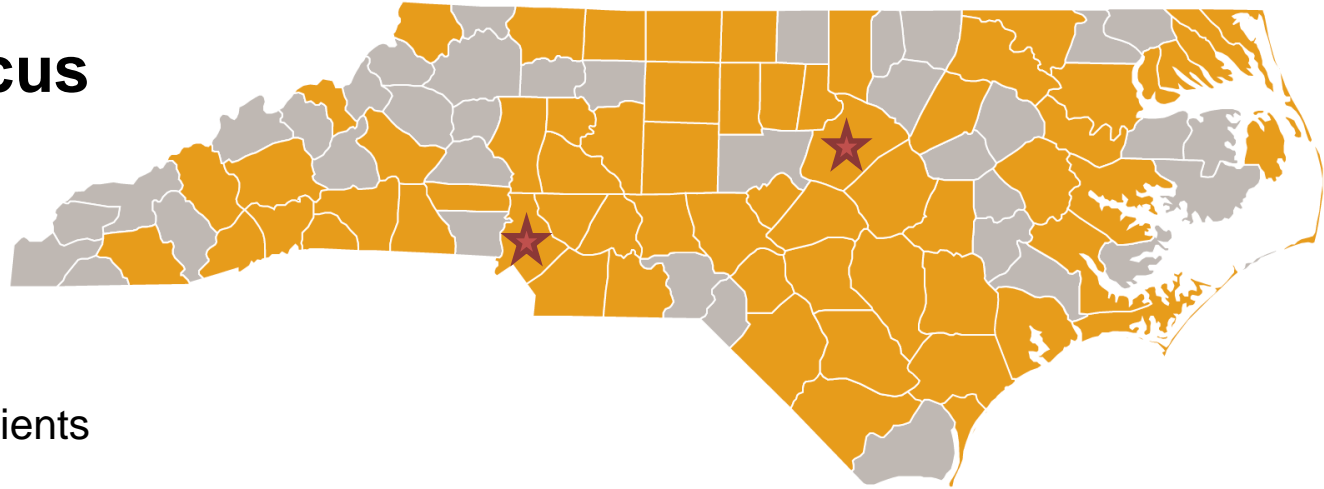
# Team Qualifications

## MOSELEYARCHITECTS

### North Carolina Focus

In the last 25 years.....

- 150 + projects
- 60 + clients
  - 45 jail / correctional clients
    - 4.8 + million square feet
    - \$670 + million in construction value
    - 8,000 + secure beds



★ *Our Office Locations in NC*

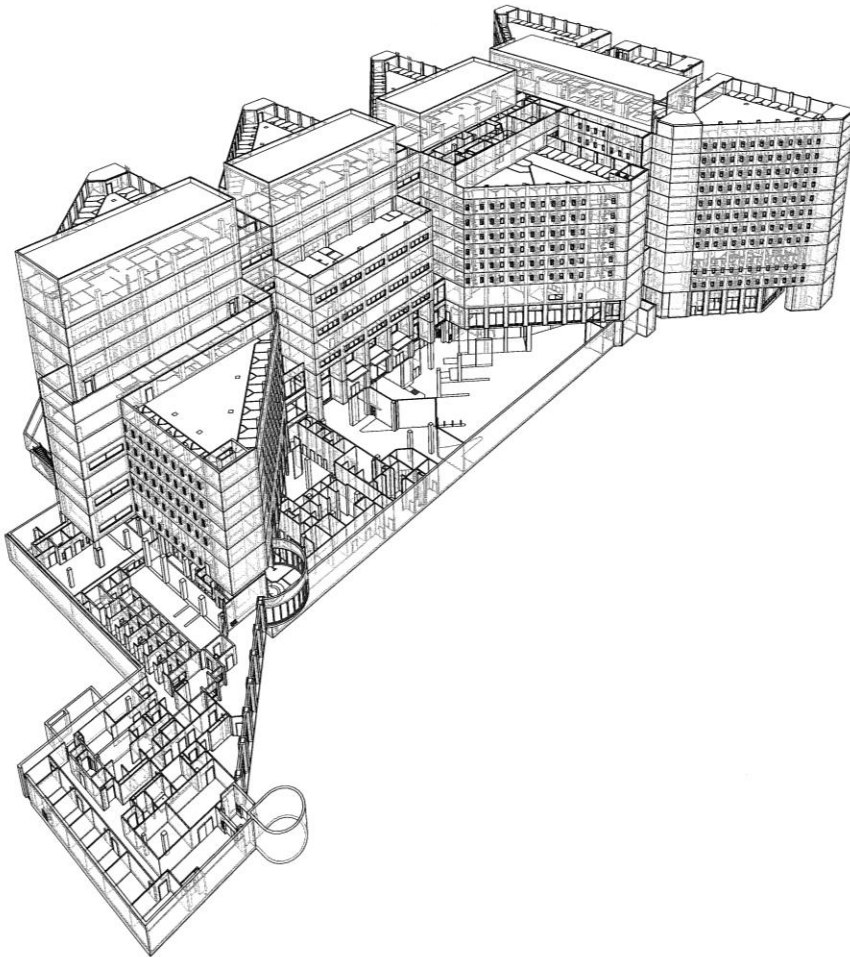
# Team Qualifications

## **North Carolina Detention Facility Projects**

- Bladen County Detention Center
- Buncombe County Detention Center Expansion
- Butner Federal Correctional Institution
- Camp Lejeune MCI East Regional Brig
- Craven County Detention Facility
- Cumberland County Jail Expansion
- Granville County Detention Center
- Guilford County Detention Facility Expansion
- Harnett County Detention Facility
- Haywood County Jail Needs Assessment
- Hoke County Detention Center Expansion
- Iredell County Detention Facility Expansion
- Johnston County Detention Center
- Lee County Jail Renovations
- Lincoln County Detention Facility
- Mecklenburg County Jail Central Arrest Processing Center
- Mecklenburg County Jail Integrated Security Systems
- Montgomery County Jail
- Nash County Detention Center Additions / Renovations
- NC DPS New Juvenile Detention Prototype
- Orange County Detention Center
- Polk County Detention Center
- Randolph County Jail Additions / Renovations
- Rockingham County Detention Facility
- Rowan County Detention Annex
- Sampson County Detention Center
- Stanly County Jail Expansion
- Stokes County Jail Expansion
- Surry County Detention Center
- Transylvania County Detention Center
- Wayne County Detention Center Annex

# Experience

## Mecklenburg County Jail Central Renovations



- Construction Manager At Risk (CMAR) delivery method
- Replacement of entire security electronics system, and update operations parameters
- Improve and renovate the arrest processing area (APC)
- Introduce Magistrate functions in the APC area
- Created a new Emergency Arrest Processing Center at the Jail North campus
- Security upgrades at the Jail North campus



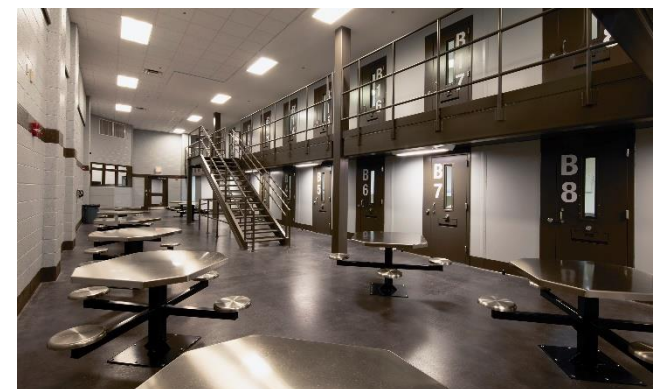
# Experience

## Iredell County Detention Center Expansion

- Design – Bid – Build delivery method
- Needs assessment and feasibility study
- Full-service design
- 82,000 square feet
- 300-bed expansion (700-bed core)
- Conversion of booking and intake into new medical infirmary suite
- Phasing out of original jail housing unit
- Transition and activation services

*"Moseley Architects has met and **exceeded our expectations** for architectural and engineering services on this project."*

*- Bert Connolly, Chief Deputy of Operations*





# Experience

## Transylvania County Public Safety Facility

- Master plan, needs analysis, feasibility study
- Full service design
- 120 beds (250 core)
- 63,078 square feet
- Law enforcement center
- EOC and E911 spaces
- \$17,409,018
- LEED Silver

*"The facility has proven to be secure, user and staff efficient, operations and maintenance friendly, and energy efficient, one that we are extremely proud of."*

- Sheriff David Mahoney



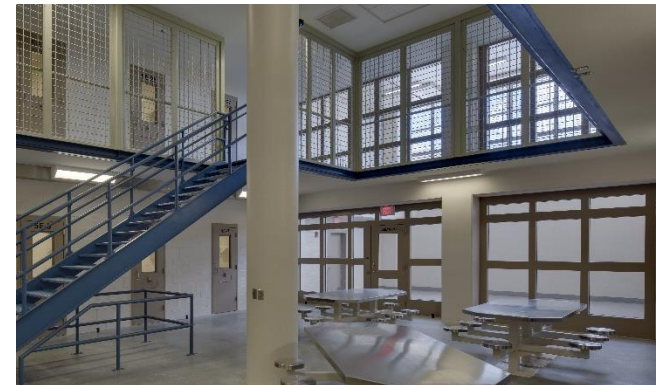
# Experience

## Guilford County Detention Center Expansion

- Construction Manager At Risk (CMAR) delivery method
- Balfour Beatty - CMAR
- 354,600 square feet
- 1,032 beds (3,000 core)
- 8 stories
- 1,700 electronic security doors
- Significant number of arrestees with mental illness and substance abuse – Medical Ward
- \$85,087,793

*"Moseley Architects was able to address our needs and deliver the project **three months ahead of schedule** and **\$10 million dollars under budget.**"*

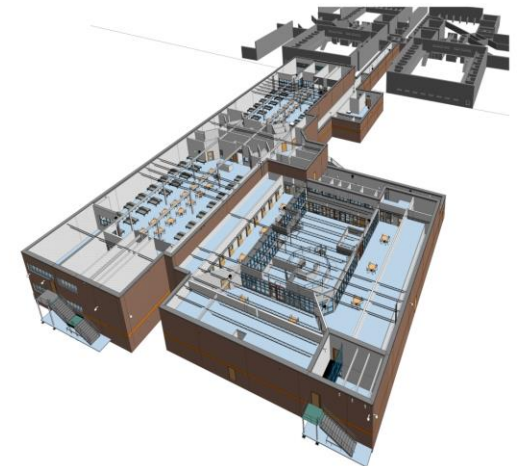
*- Sheriff BJ Barnes*



# Experience

## Cumberland County Detention Center Expansion

- Construction Manager At Risk (CMAR) delivery method
- Full-service design
- 316-beds
- 60 maximum security cells
- 256 beds in dormitory-style units
- 63,460 square feet
- \$13,142,817
- \$1,875,183 **under** budget



*"I always felt that Moseley Architects' primary goal was to represent the county in terms of safety and costs equally."*

*- Jimmy Keefe, County Commissioner*



# Experience

## Randolph County Jail Renovation and Addition

- Facility Needs Assessment
- 211 new beds
  - 2 medium security housing units with 47-bed capacity
  - 1 maximum security unit with 24 beds
  - 40-bed dormitory
  - 30-bed special populations unit
- New elevated control stations
- New sallyport
- New security electronics system
- 56,892 SF Expansion
- Currently in Construction Phase



# Experience

## York County SC Moss Justice Center Expansion

- Design-Bid-Build Delivery Method
- 234 bed jail expansion
- 21,000 SF
- Completed 3 months **ahead** of schedule
- \$11.2 million
- Currently expanding the LEC and courts





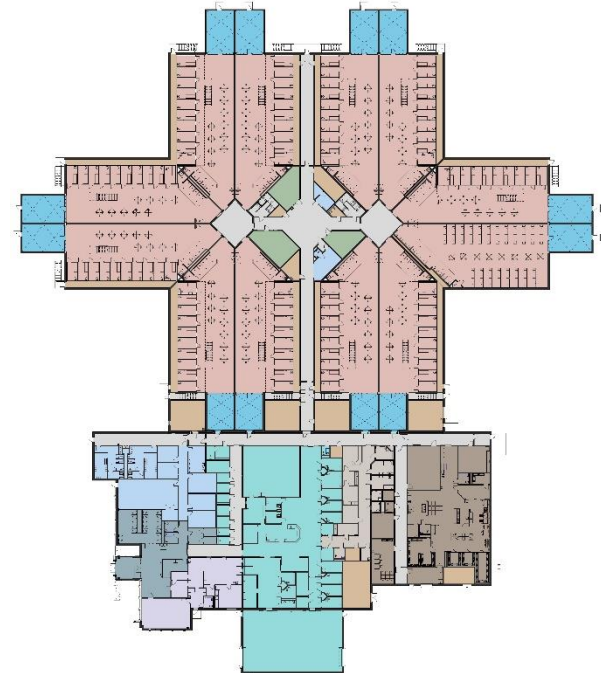
# Experience

## Johnston County New Detention Center

- Jail Needs assessment – site selection
- 117,000 square feet
- 470 beds (600 core)
- Radial design – indirect supervision
- \$36,600,000
- \$313/SF
- **\$12,000,000 under budget!**

*“I have enjoyed my work with the professional staff of Moseley Architects, and to see the work ethic they portrayed was amazing. I always found them to be honest, straightforward, and always providing the services as promised and on time. I would highly recommend this firm for any and all of your jail, courthouse, or other construction needs.”*

*- Sheriff Steve Bizzell*



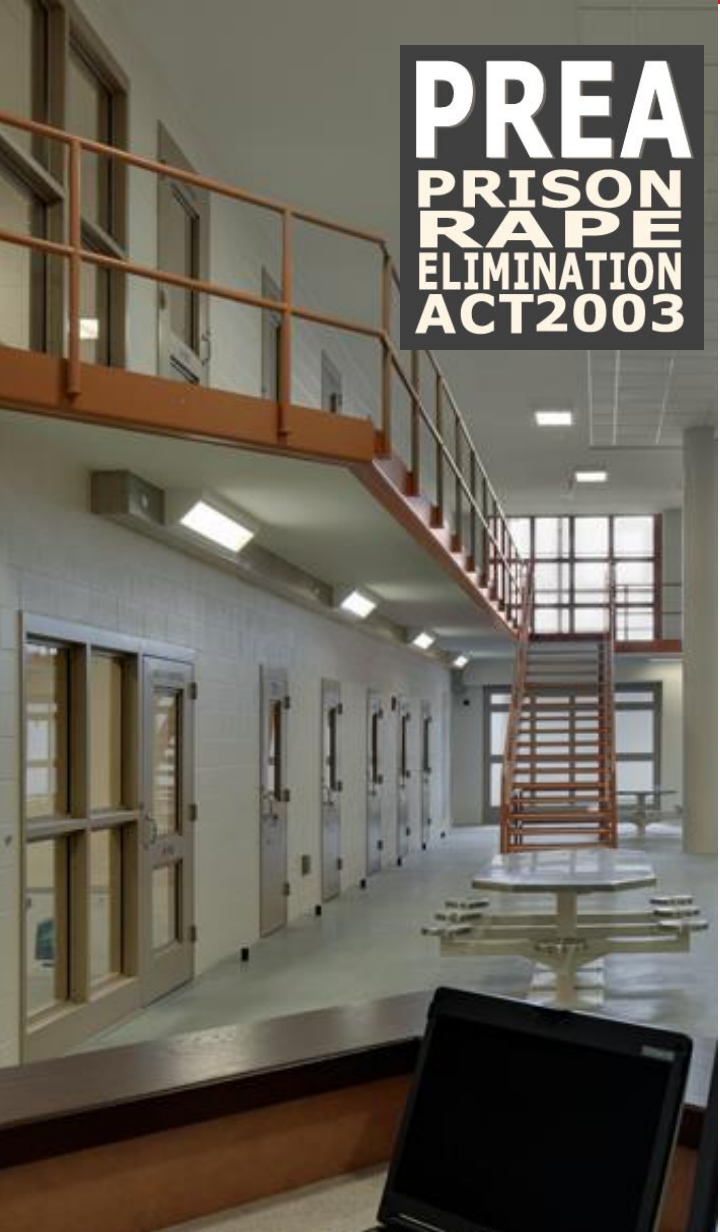
# Our Approach – Current Issues



## 5 Major Design Issues

1. **Safety** - officers, staff, inmates, and the public
2. **Cost** - both initial capital outlay and life cycle need to be reconciled
3. **Function-driven** - minimize movement corridors and wasted space
4. **Ease of Maintenance** – toilet and HVAC access, floor drains, hose bibs, outlets, quality of materials and systems, etc.
5. **Staff efficient** - sightlines, minimize prisoner movement, PREA concerns

# Our Approach - Specialized Services



**PREA  
PRISON  
RAPE  
ELIMINATION  
ACT 2003**

## Transition/Occupancy Services

### *Issues:*

- Staff Efficiency
- Officer Safety
- Hiring and Move Logistics
- Policy and Procedures Development
- Inmate Guide
- Staffing Plan
- Liability and Risk Mitigation
- **Contracted Services Optimization**
- **In-house policy compliance expertise**



# Our Approach - Specialized Services



## Integrated In-house Security Systems Design

### *Issues:*

- Infrastructure Readiness
- Stakeholder Preferences
- Emerging Technologies
- Contractor Pre-qualification
- System Commissioning
- Integrated Controls

# Specialized Services - Energy Analytics

## Proven Track Record:

- **\$1.5 million** in utility rebates going back to our clients
- **2x ENERGY STAR Partner of the Year (2021 & 2018)**
- **141 LEED Certified projects**



### No Cost

- Solar orientation
- Reflective roofs



### Low Cost

- LED lighting
- Efficient windows



### Medium Cost

- Hydronic systems
- Energy recovery



### Upper Cost

- Solar PV
- Geothermal



# Specialized Services - Energy Analytics

## Cost vs. Savings: Payback Analysis- Rockingham County Detention / Justice Facility

### Actual Savings

- Energy: \$67,227
- Water: \$32,175

### Cost of High Performance Features

- Total: \$632,750
- % of Budget: 1.68%

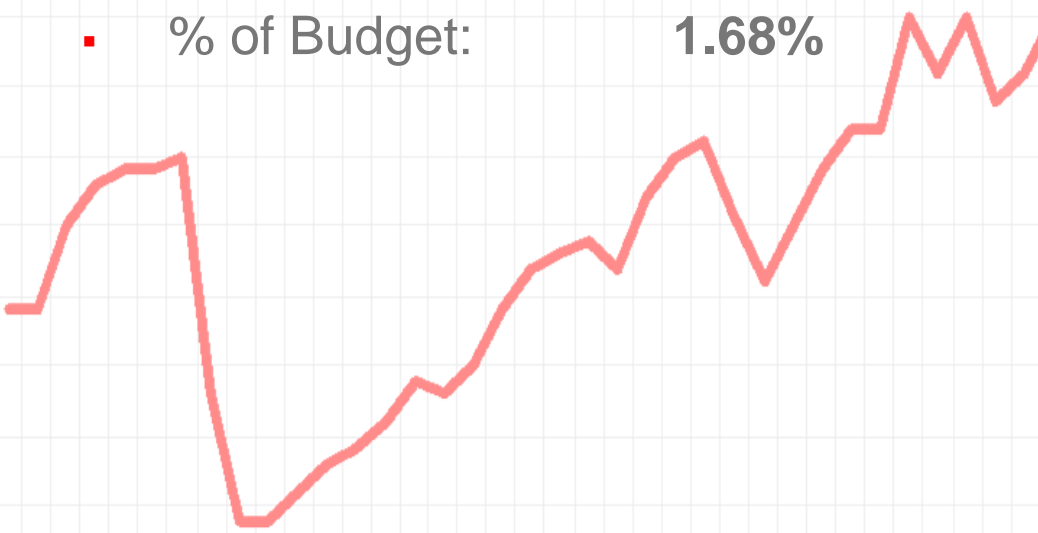


Payback Period:

**6.37 yr**

Life-cycle Savings:

**\$11.37M** over 40 yrs



# Specialized Services – QA / QC

- Full-time quality control staff
- Discipline-specific reviews
- Formalized Redi-Check process
- Moseley University
- Integrated project team (including construction administration)

The image displays a detailed architectural roof plan with various annotations and a review agenda. The plan includes a north arrow, a title block, and a table of roof assemblies. The review agenda, titled 'MOSELEYARCHITECTS', is dated December 2, 2019, and lists project details, personnel, and reminders. The roof plan itself features yellow handwritten notes and red star symbols indicating specific items for review. A table at the bottom right lists roof assemblies RFA1, RFA2, and RFA3 with their respective remarks and information.

**MOSELEYARCHITECTS**

December 2, 2019

**POST REDI-CHECK REVIEW AGENDA**

**PROJECT:** Walker Depot Complex Renovations (FEDERAL and STATE Combined Meeting)

**ARCHITECT'S PROJECT NO.:** 561080

**DATE AND LOCATION:** 1:00 PM Thursday, December 5, 2019  
R/C, Conf. North 1 and GoToMeeting

**PERSONNEL:** Project Manager: Emily Baker  
Managing Principal: Tony Bell  
Red-Check Reviewer(s): Michael West

**REMINDERS:**

- Click this link - "[Quality Control Plan](#)" - for Project Manager responsibilities following the issuance of the Red-Check (RC) review comments.
- RC review comments and drawings can be found in the file directory REDI-CHECK COMMENTS folder under your Project's MILESTONE folder.
- The most widely used abbreviation/symbolology used on the reviewed drawings:
  - AWV (At Variance With)
  - RED STAR ★ (\* or similar icon) identifies potentially significant items

**SELECTED COMMENTS/DISCUSSIONS:**

- Significant Item ★ - Refer to (FED) drawing A2.4. Overhead Doors 400 and 401 are noted with keynote 12 which calls for an "Egress Main Door within the overhead door." I do not understand how a sectional overhead door can accomplish this intent. The spec simply states a "... pass door..." is required (ref also drawings A3.1 and A4.2).
- Significant Item ★ - Refer to (STATE) drawing A2.2: Additive Bid Alternate #1 is not clearly delineated throughout the drawings regarding the scope of work intended with and without the subject bid alternate (ref also drawings 3.8, A1A.1, A6.1, A6.2, S1.1, S1.1, M2.1 and E2.2).
- (formerly) Significant Item ★ - Refer to (FED) drawing A9.4. The RCP does not indicate ceiling heaters, which on the Mech and Elec drawings are designated as EUH-1 and EUH-2. Subsequent to marking this as a "Significant Item", I found these "EUH" heaters listed as "ceiling type" in the schedule on drawing M0.2 (not scanned).
- Ref (FED) drawing 01A10.1: The FRT substrate indicated in this detail is AWV spec section 07523.
- Ref (FED & STATE) drawing P0.1: The plumbing fixture mounting heights listed in the "Schedule" do not appear to be correct and the note(s) requiring accessibility, under the Schedule Headings

**ROOF PLAN GENERAL NOTES:**

- As noted on drawing 01A10.1, the roof structure is to be constructed in accordance with the details shown on drawing 01A10.1.
- As noted on drawing 01A10.1, the roof structure is to be constructed in accordance with the details shown on drawing 01A10.1.
- As noted on drawing 01A10.1, the roof structure is to be constructed in accordance with the details shown on drawing 01A10.1.
- As noted on drawing 01A10.1, the roof structure is to be constructed in accordance with the details shown on drawing 01A10.1.
- As noted on drawing 01A10.1, the roof structure is to be constructed in accordance with the details shown on drawing 01A10.1.

**ROOF ASSEMBLIES:**

MARK	REMARKS	INFORMATION
RFA1		
RFA2		
RFA3		

**LUCKETTS FIRE AND RESCUE**  
5100 W. LUCKETTS ROAD  
LUCKETTS, VA 22088

**MOSELEYARCHITECTS**

PROGRESS PRINT NOT FOR CONSTRUCTION

ROOF PLAN

A10.1

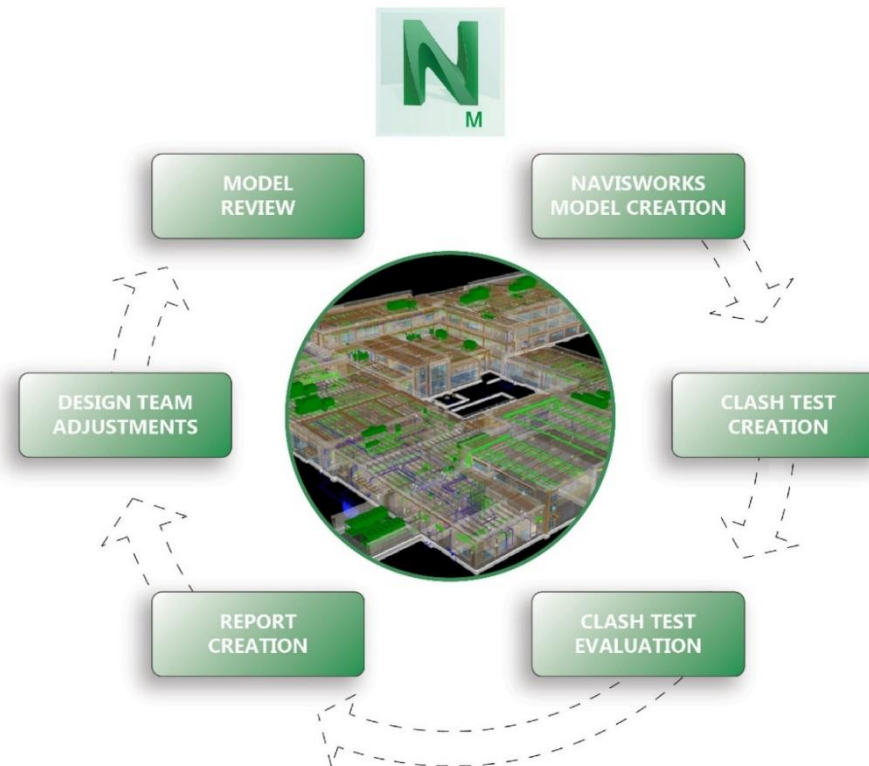
# Specialized Services

## Cost Control

Project	Beds	Budget	Bid	Final Cost	Method
Amherst County Adult Detention Center	380	\$50.8 M	\$37.2 M	\$34.8 M	D-B-B
Bladen County Law Enforcement and Detention Center	220	\$16.5	\$16.5	\$16.5	D-B-B
Charleston County Detention Center Expansion	1,344	\$90.2 M	\$90.2 M	\$90.2 M	D-B
Cumberland County Detention Center Expansion	316	\$15 M	\$12.9 M	\$13.1 M	CMAR
Greenville County Detention Center Expansion	448	\$12.4	\$12.4	\$12.4	D-B
Guilford County Detention Center	1,032	\$94.5 M	\$85 M	\$84.6 M	CMAR
Harnett County Law Enforcement and Detention Center	300	\$22.9 M	\$21.4 M	\$21.7	D-B-B
Meherrin River Regional Jail - Brunswick	400	\$44.4M	\$44.4 M	\$44.4 M	D-B
Rockingham County Judicial Center	222	\$39 M	\$37.7 M	\$37.8 M	D-B-B
York County Detention Center Addition and Renovation	234	\$11.4	\$11.2	\$11.3	D-B-B

# Specialized Services - Navisworks

## Navisworks Clash Detection

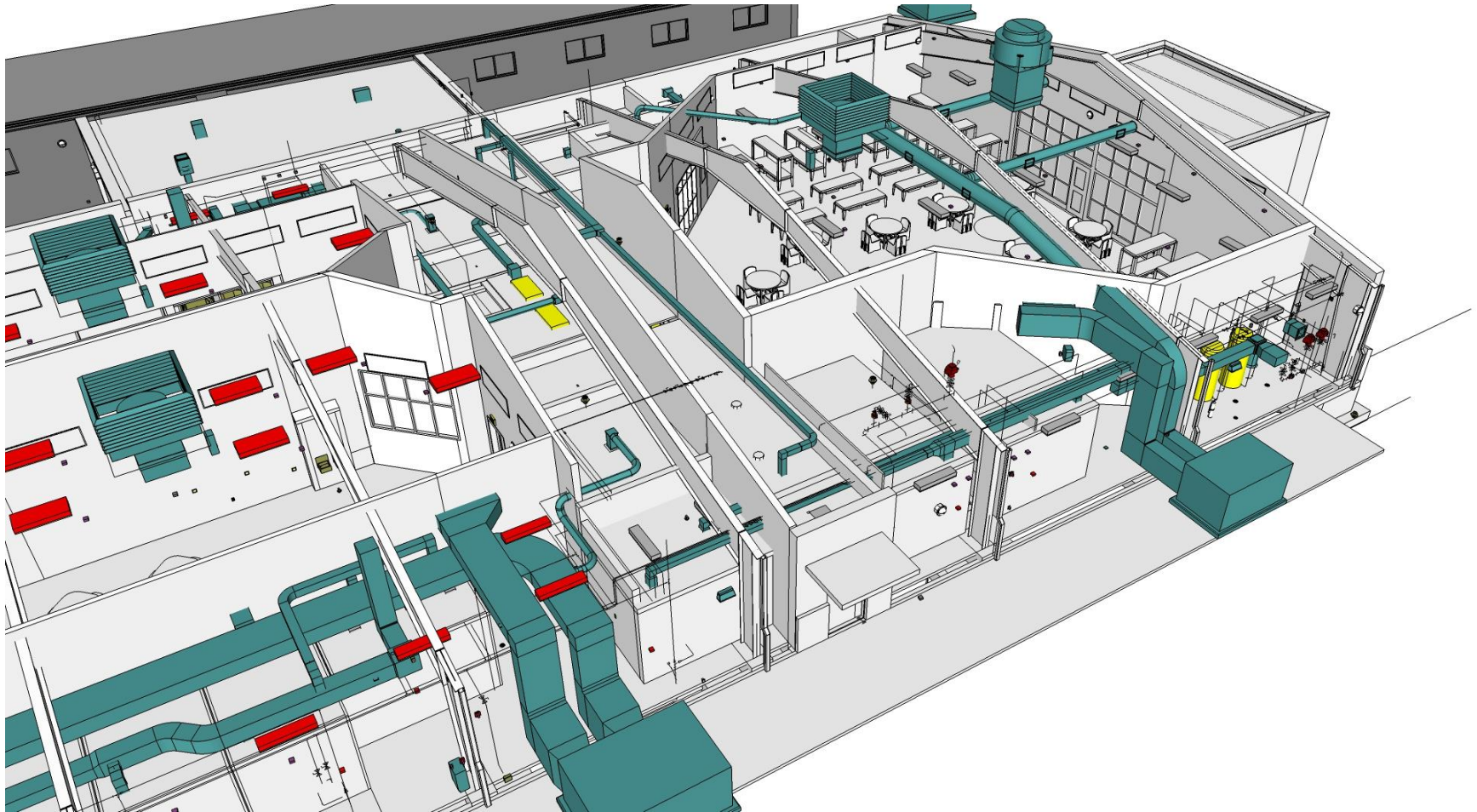


**CLASH DETECTION** IS A PROCESS THAT INCLUDES EFFECTIVE **IDENTIFICATION, INSPECTION** AND **REPORTING** OF INTERFERENCES IN A PROJECT MODEL. IT IS USED FOR CHECKING COMPLETED OR ONGOING WORK AND REDUCES THE RISK OF HUMAN ERROR DURING MODEL INSPECTIONS.



# Specialized Services - BIM

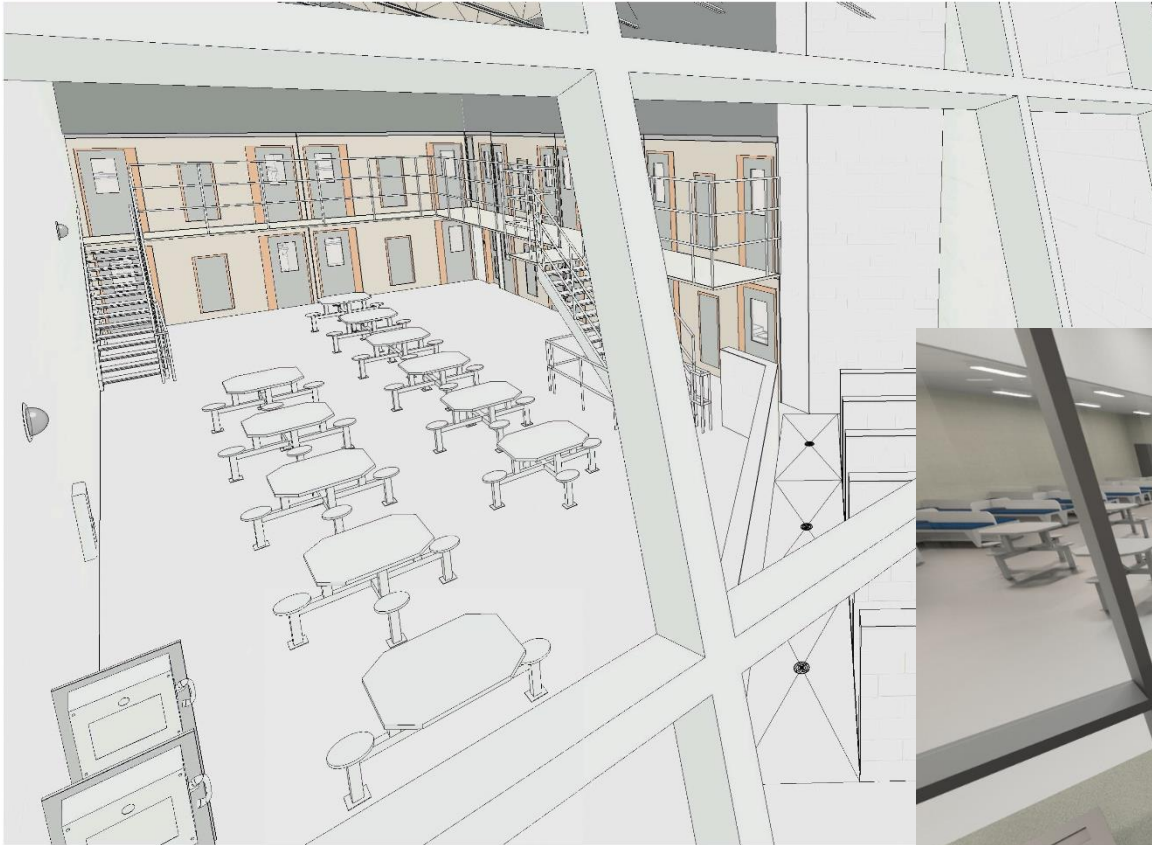
## Navisworks – Clash Detection and Quality Control





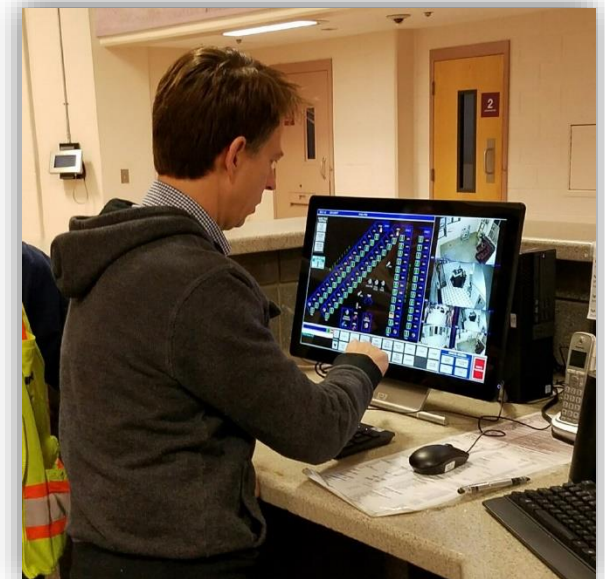
# Specialized Services - BIM

## BIM Information Modeling – Sightline Analysis



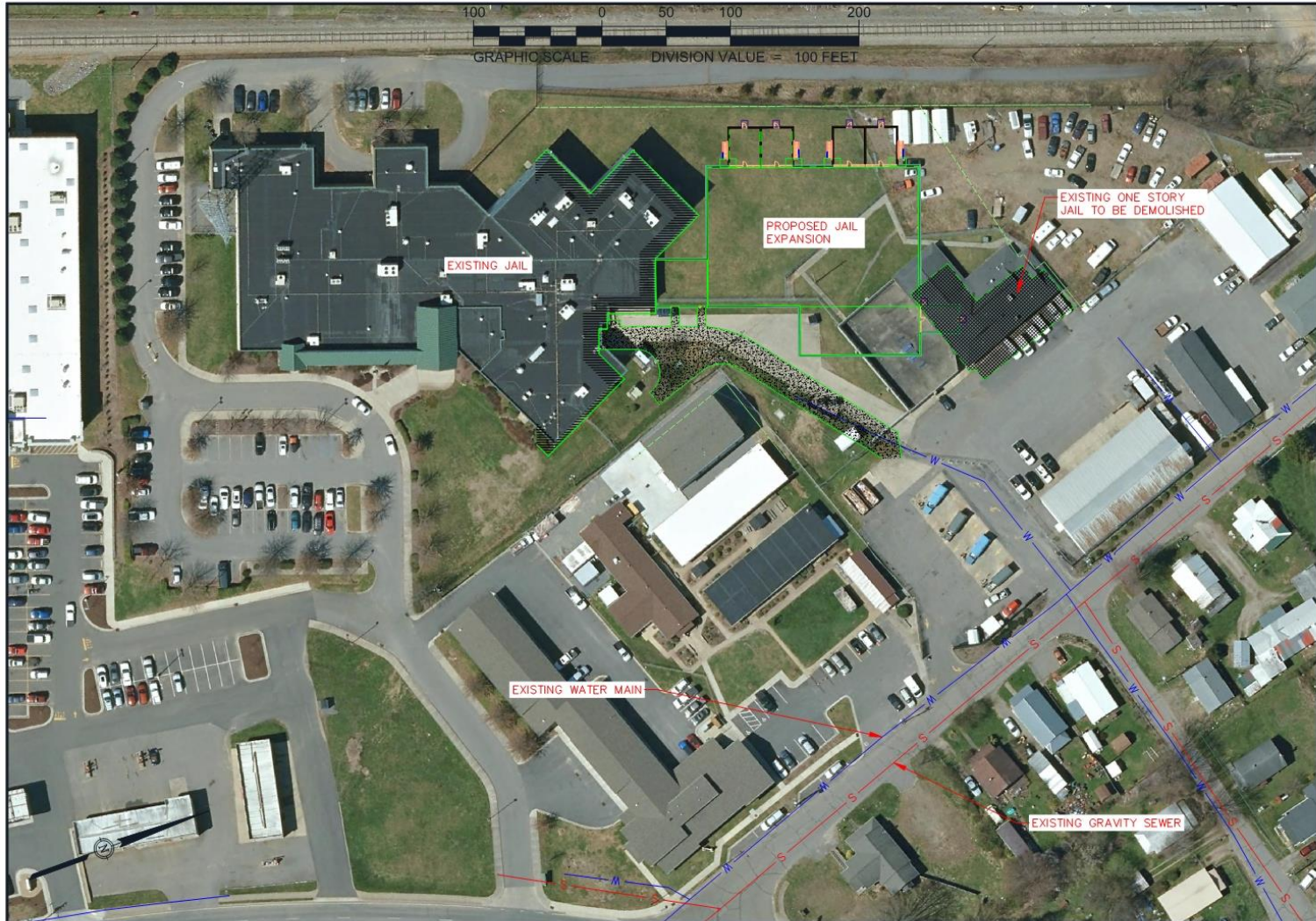
# Enhanced Construction Services

- **Justice-trained construction staff**
- **Be proactive** – “run” to the issue
- **Document everything thoroughly** – **communicate**
- **React immediately to challenges**
- **Continued design team involvement**
- **Full-time** on-site administration if desired





# Your Project – Site Plan



I:\MCGILL\ASHOC\USER\FOLDER\SS\NICOLE.DYER\DESKTOP\HAYWOOD DETENTION CENTER.DWG PLOT DATE 1/12/2021 12:00 PM NICOLE DYER



55 Broad Street  
Asheville, NC 28801  
828.252.0575  
NC Firm License # C-0459  
mcgillassociates.com

DATE JANUARY 2021	PROJECT # XX.XXXXX
OFFICE MANAGER M. CATHEY	DESIGNER N. DYER
PROJECT MANAGER S. BURWELL	REVIEWER S. BURWELL

HAYWOOD COUNTY  
DETENTION CENTER EXPANSION  
**WAYNESVILLE**  
HAYWOOD COUNTY, NORTH CAROLINA

CONCEPT PLAN

SHEET  
1



# Your Project – Site Plan

The screenshot displays the FRIS (Flood Risk Information System) web application. The main map area shows an aerial view of a residential and commercial area with various flood zones overlaid in shades of blue and yellow. A specific area is labeled 'ZONE A0 (DEPTH 3)'. Numerous parcel numbers are visible on the map, such as 27243, 27330, 27344, 27391, 7435, 27438, 27476, 7491, 27564, 27398, 27615, 27634, 27437, 27506, and 27507. The interface includes a search bar at the top left, a 'Map Theme' dropdown, and a 'Who Am I' dropdown set to 'General Public'. A 'Flood Information' panel on the right contains a message: 'Click the map to view information.' Below this panel are several expandable sections: Risk Information, Financial Vulnerability, Flood Insurance, FIS Reports, Map Export, and Data Export. The bottom of the screen shows a Windows taskbar with the time 5:36 PM on 1/13/2021.

1MCGILL-ASHOCUSER

55 Broad Street  
Asheville, NC 28801  
828.252.0575  
NC Firm License # C-0459  
mcgillassociates.com

DATE JANUARY 2021	PROJECT # XX.XXXXX
OFFICE MANAGER M. CATHEY	DESIGNER N. DYER
PROJECT MANAGER S. BURWELL	REVIEWER S. BURWELL

HAYWOOD COUNTY  
DETENTION CENTER EXPANSION  
**WAYNESVILLE**  
HAYWOOD COUNTY, NORTH CAROLINA

CONCEPT PLAN

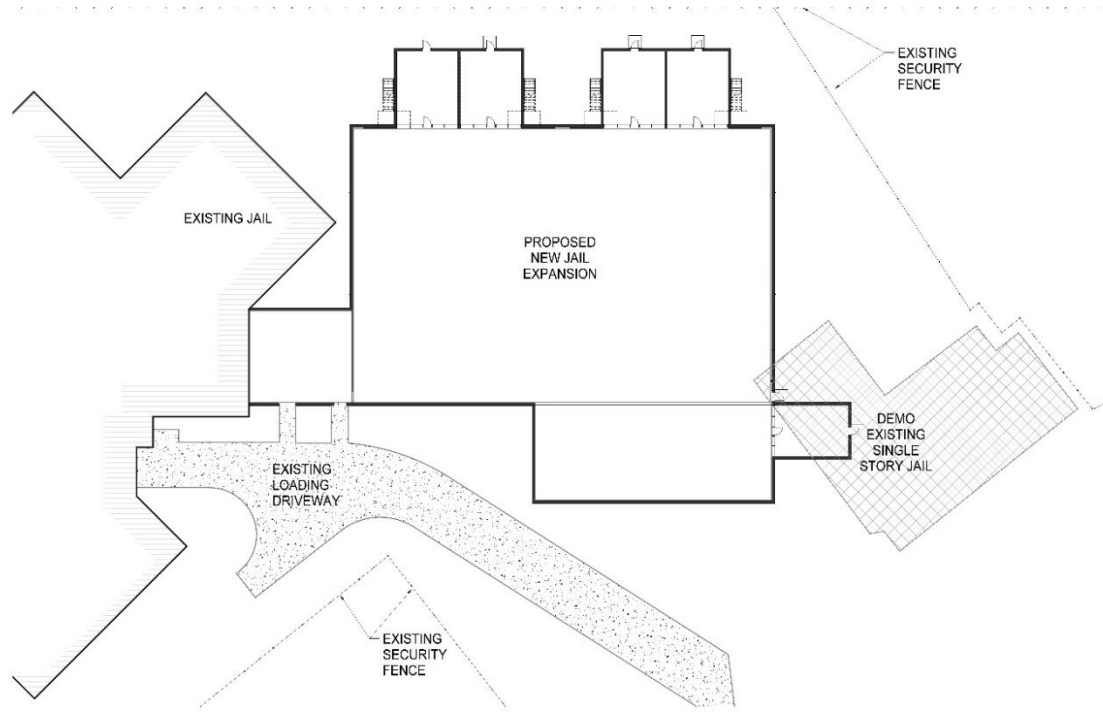
SHEET  
1



# Your Project – Site Plan

**MOSELEYARCHITECTS**  
2125 HUNTER HILL ROAD • FAYETTEVILLE, NORTH CAROLINA 28531  
PHONE: 910.486.3100 • FAX: 910.486.3104  
WWW.MOSELEYARCHITECTS.COM

**HAYWOOD COUNTY, NORTH CAROLINA  
DETENTION CENTER EXPANSION  
WAYNESVILLE, NORTH CAROLINA**



PROPOSED SITE PLAN  
SW - C

PROJECT NO. 2700  
DATE: 07/27/11  
DESIGNER: M. MOSELEY  
CHECKER: M. MOSELEY

PROPOSED SITE PLAN

# Your Project – First Floor Plan



**MOSELEYARCHITECTS**  
 6125 JACOBY HILL ROAD - FAYETTEVILLE, NORTH CAROLINA 28404  
 PHONE: 704.340.1100 FAX: 704.340.1104  
 WWW.MOSELEYARCHITECTS.COM

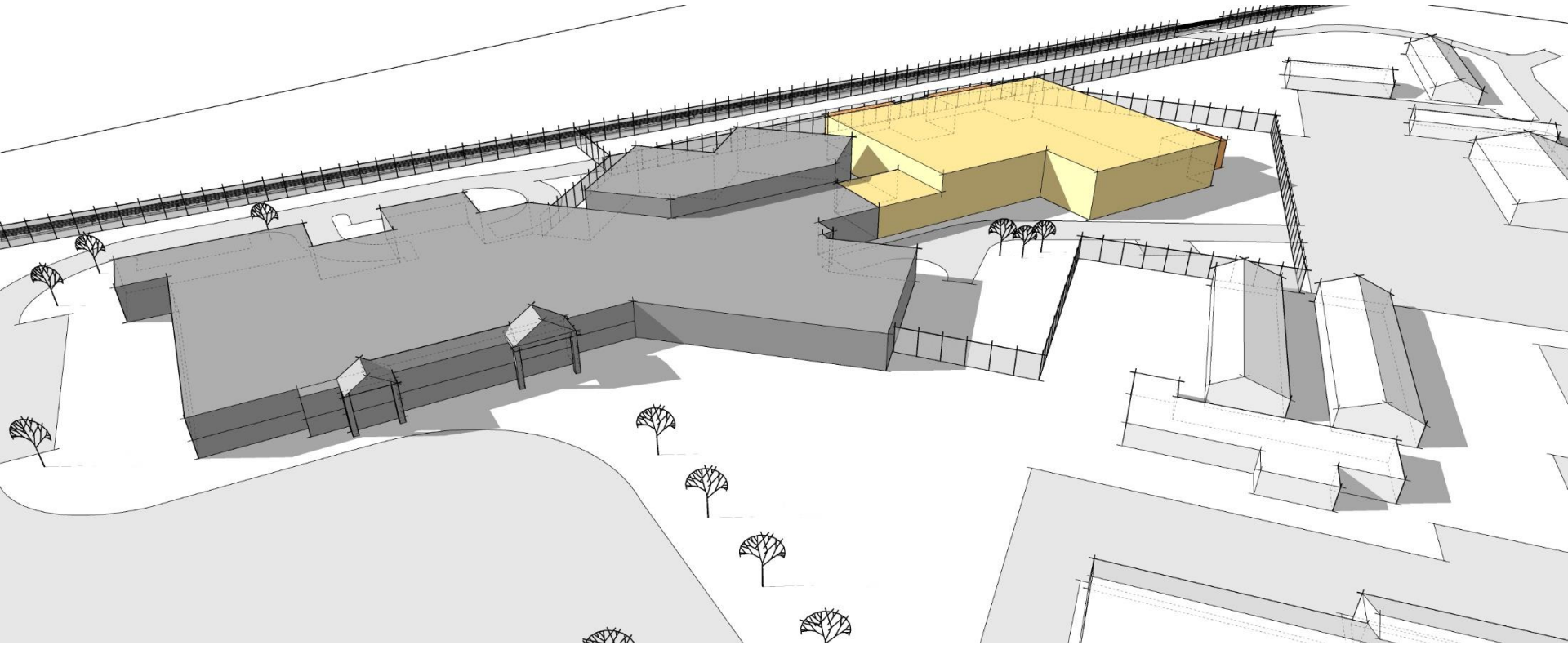
**HAYWOOD COUNTY, NORTH CAROLINA  
 DETENTION CENTER EXPANSION  
 WAYNESVILLE, NORTH CAROLINA**

PROJECT NO. 2700  
 DATE: 07/27/11  
 SHEET: 01-01

PROPOSED FLOOR PLAN EXPANSION



# Your Project - Massing Study

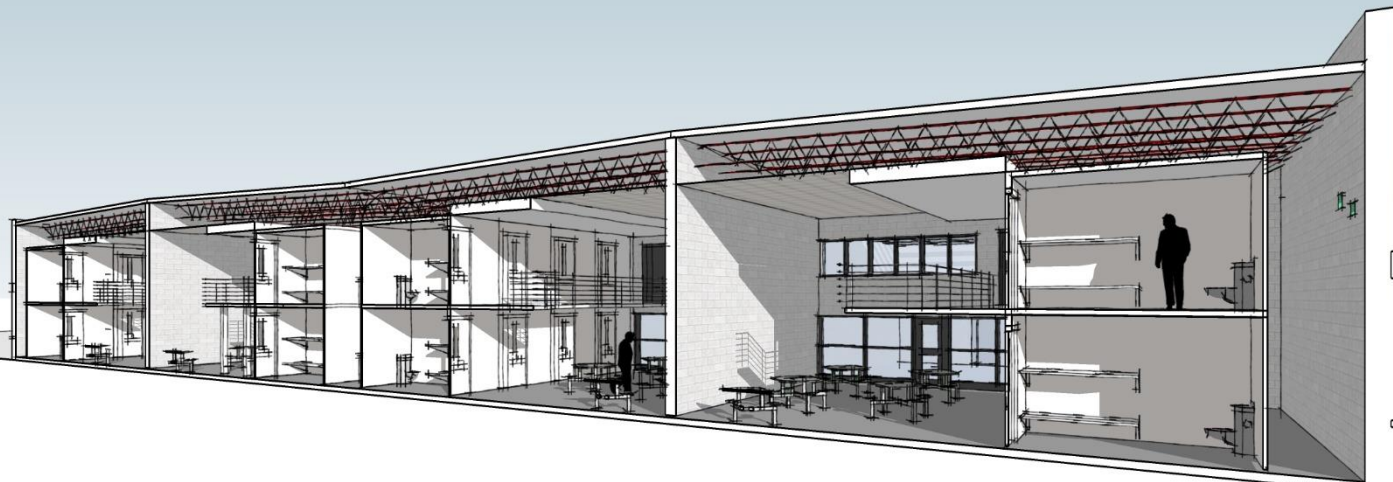
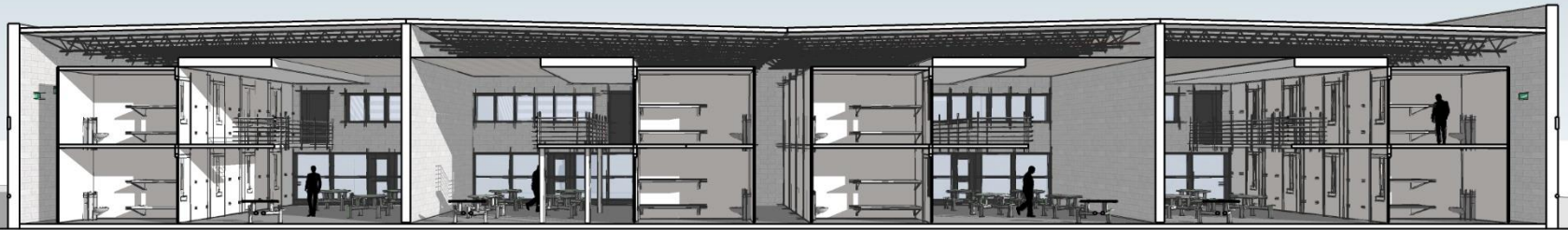




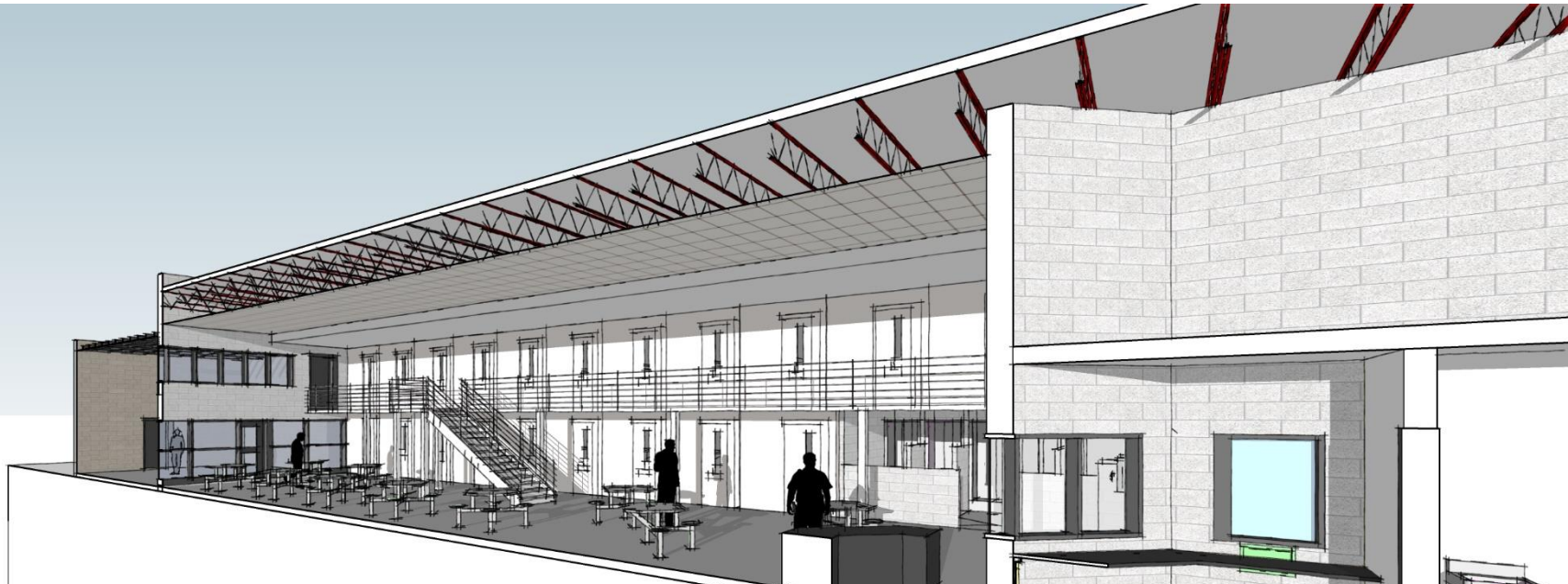
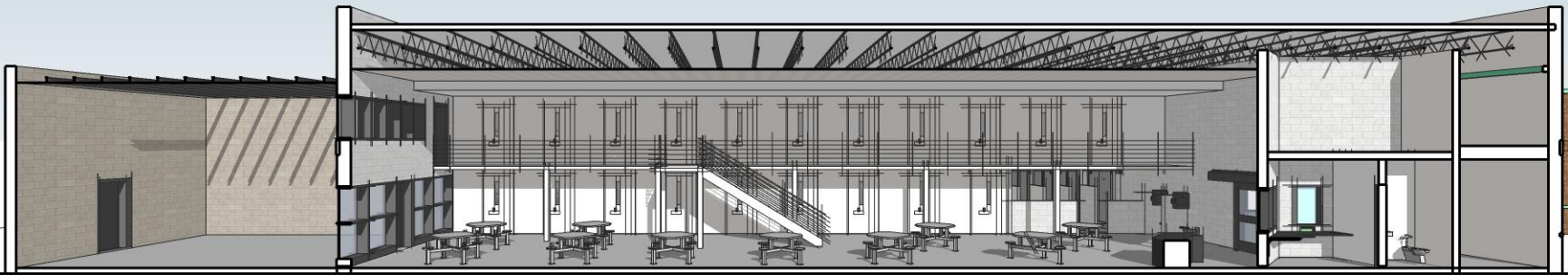
# Your Project - Massing Study



# Your Project – Building Sections

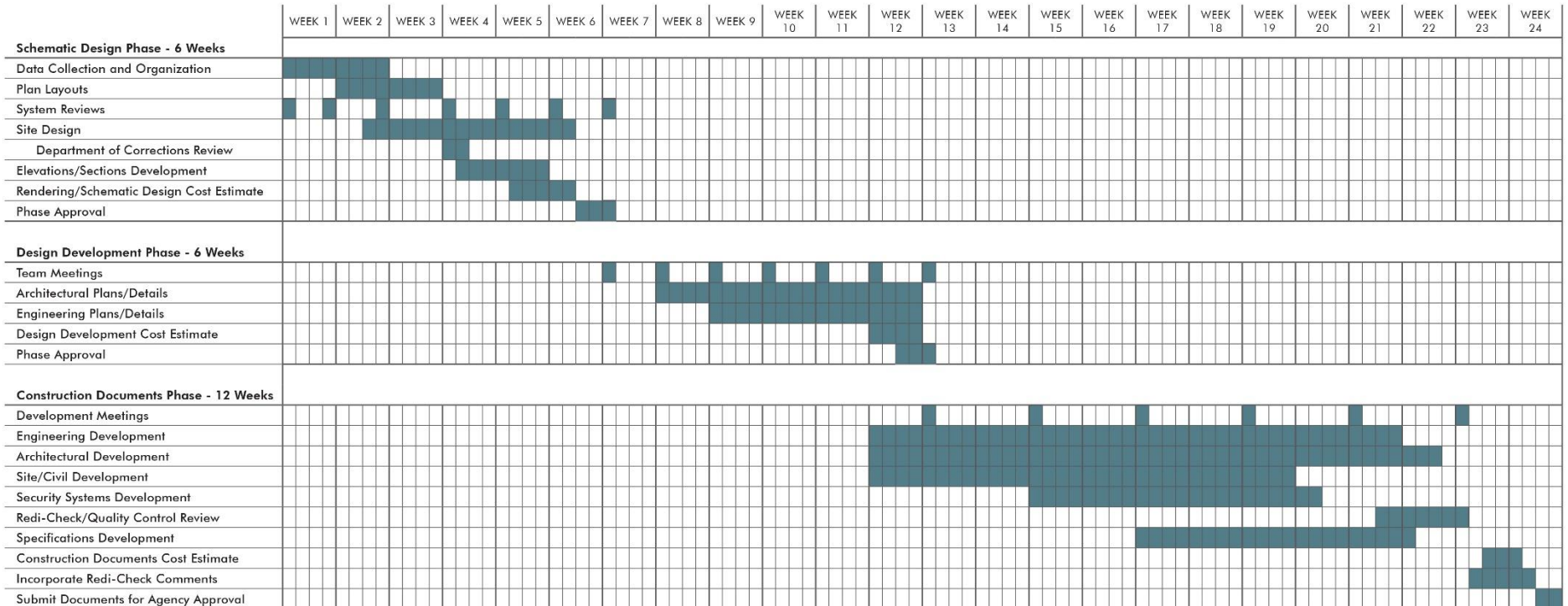


# Your Project – Building Sections



# Your project - Design Schedule

## Proposed Jail Expansion Design Schedule – Expedited to 6 month duration





# The Moseley Advantage

- **Proven team** – vast regional and NC detention design experience
- Depth of **in-house** specialized professionals: your **“one-stop-shop”**
- **Jail Management / Operations Professionals** – We have “walked the walk”
- **Extensive** track record of successfully meeting challenging schedules and budgets
- Energy Analytics, Operational Efficiencies, Contracted Services Consulting – our solution will **SAVE** you money!
- Southern **focus** / national **perspective**





# Questions



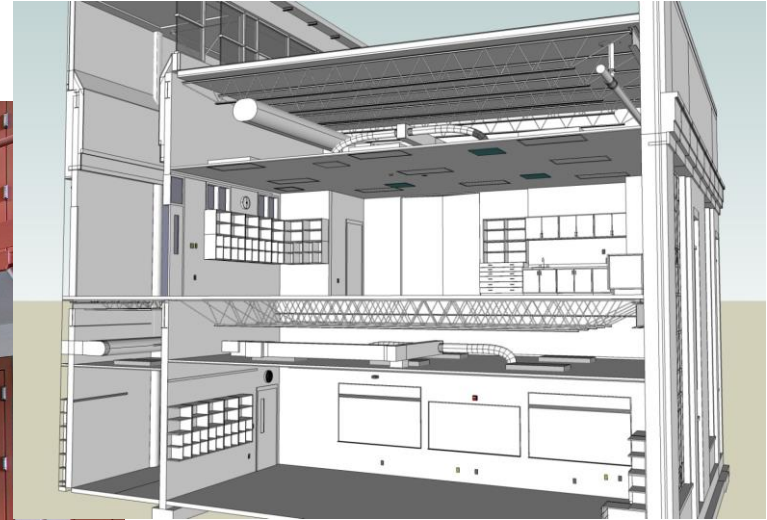
# Often Asked Questions

**Where is a safe place to reduce costs in a jail design and construction project? By safe, we mean something that will not reduce the security of the facility, increase the need for staff or contribute to the cost of operation, but still permits the owner to save some money:**

- Don't waste space on unnecessary corridors.
- Sealed concrete floors – low maintenance
- Don't use security fixtures (lights, sprinklers, etc.) in inmate inaccessible areas like at ceiling of housing that inmates can't get to, movement corridors, intake lobby.
- For doors into maintenance areas in non-inmate areas, use industrial locks rather than detention grade locks.
- Steel pre-fabricated modular cells will reduce weight for structure, reduce building size, and enhance maintenance access.
- For CMU walls, consider rebar in every other cell with grout fill.
- BIM analysis for clash detection and maximizing building efficiency by reducing floor to floor height / plenum space.



# Often Asked Questions





# Often Asked Questions

**Natural light is important for the living areas of a jail, but some ways of introducing daylight (such as cell windows to the outside) have inherent security risks. What ways do you have of increasing natural light in a housing unit that are also secure?**

- The best way is from a large window-wall configuration that leads into a dedicated exterior but secure recreation yard that meets NC jail standards. This places the maximum natural light into the dayroom space, where it is of most benefit. Cell door windows “borrow” this light from there to comply with the lighting standard.
- “Solar-tubes” can focus natural light into a fixture in the ceiling in a secure fashion. The quality of light though is less than the window wall or clerestories.
- Skylights and clerestories can also provide natural light into inmate spaces but can be maintenance headaches .

# Often Asked Questions



# Often Asked Questions

**Many jail housing unit dayrooms and/or open dorms are very loud because of all the concrete and metal construction. What ways do you have to reduce noise?**

- We utilize acoustic lay-in ceiling tile in inmate inaccessible areas in the dayroom to absorb sound and save construction cost.
- On the walls starting at 8-10 feet above the floor, we apply Tectum sound panels along the walls – very durable and paintable material.
- We are investigating a highly waterproof and cleanable floor covering for dayroom open space and will be able to report findings soon - Textile Composite Flooring.
- Ambient noise machines in the dayroom may help mask annoying reverberations.



# Often Asked Questions



**kinetex**  
Textile Composite Flooring

Wear Layer/  
Face Fiber



Cushioned  
Backing

Thermally  
Fused

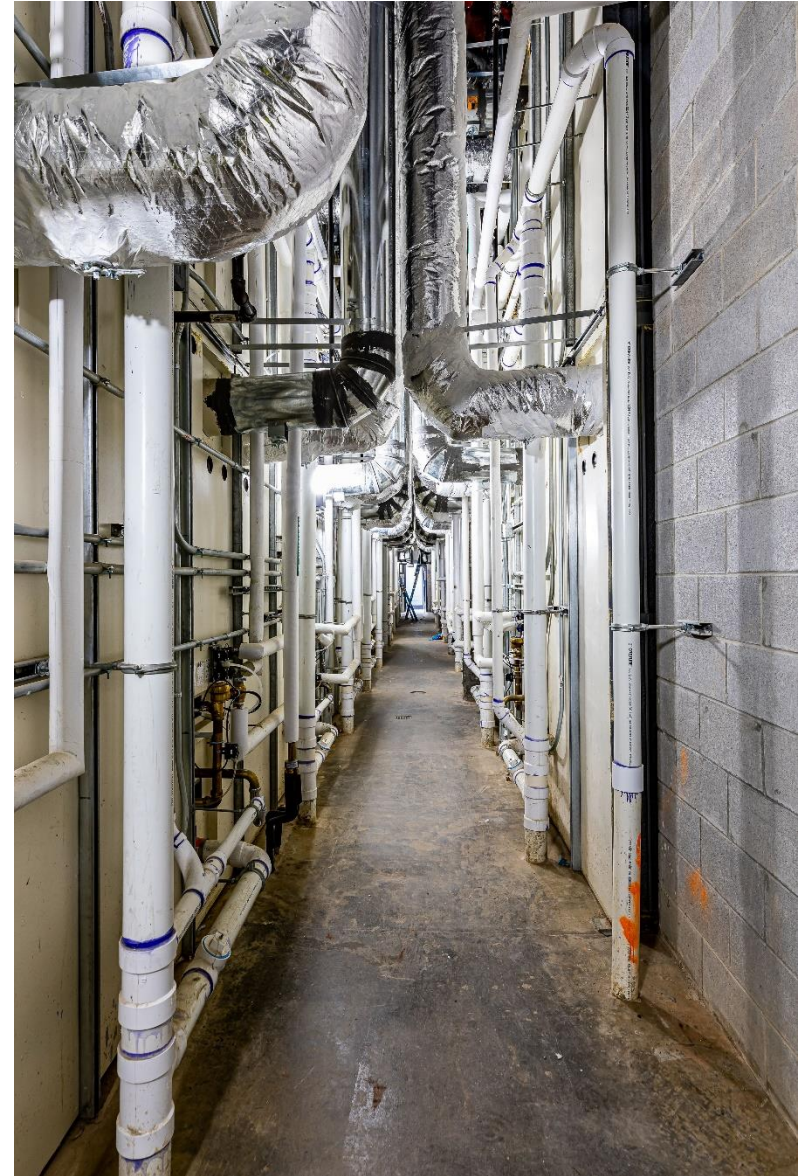
# Often Asked Questions

**Plumbing fixtures in sinks, toilets and showers need servicing from time to time. What design ideas do you have that will allow maintenance workers to access the fixtures without disrupting the operation of the housing unit?**

- We have been pioneering the use of rear plumbing chases for some time now. This allows great access by maintenance staff to the back of cells to work on units without having to close a housing dayroom required with the traditional “y” chases. These chases need to be “right-sized” – 4 feet clear for a single loaded chase and 6 feet for a double loaded chase.
- We recommend LED lighting for the energy savings and durability of the fixture. Locate the fixture to avoid fixed furniture below so maintenance can more easily get underneath the fixture to replace bulbs.
- We carefully and strategically locate floor drains, hose bibs, janitor closets, and power outlets to enhance maintainability of our designs.



# Often Asked Questions





# Often Asked Questions

**The trend for several years has been to reduce inmate traffic by bringing as many services (food, visitation, medical, etc.) as possible to the housing units. During the recent lockdown for the virus this became even more important as entire housing units might need to be isolated because of positive cases. What design ideas do you have that minimize inmate traffic around the facility?**

- The main thing we recommend is you consider having a series of multi-purpose rooms directly adjacent to each housing unit. Clergy and other educational programs can be held in these, as well as video remote attorney visits.
- Each housing unit to have dedicated secure exterior recreation yards to minimize inmate movement out of the units.
- For meal delivery – make sure that all movement doors are wide enough for food carts.
- Locate janitor closets at each housing unit if possible, for ease of maintenance.

# Often Asked Questions

