

Police Facilities Planning Guidelines

CASE STUDIES



Introduction

The following case studies showcase a variety of police facility planning projects that have been completed in the past ten years. Each case study was written by the lead architecture firm overseeing the facility design and construction. The case studies contain pertinent information about the projects, to include timeline, budget, goals, challenges, and outcome. They also highlight different planning processes and construction methods, as well as innovative solutions to the numerous challenges that can arise during a complex facility project.



Tolleson Police and Municipal Court	2
The Tolleson, Arizona, Police Department and Municipal Court constructed a new joint facility in 2011 with a total square footage of 22,400 and for a total cost of \$7,819,495. Case study provided by Dewberry Architects, Inc.	
Marshall Regional Law Enforcement Center	6
The Marshall, Michigan, Police Department, Calhoun County Sheriff’s Office, and Michigan State Police constructed a new joint facility in 2015 with a total square footage of 35,000 and for a total cost of \$9,103,811. Case study provided by Redstone Architects, Inc.	
Glen Ellyn Police Station	11
The Glen Ellyn, Illinois, Police Department constructed a new facility in 2017 with a total square footage of 30,000 and for a total cost of \$13,510,000. Case study provided by Dewberry Architects, Inc.	
Georgetown Public Safety & Training Complex	16
The Georgetown, Texas, Police and Fire Departments constructed a new joint facility in 2015 with a total square footage of 106,353 and for a total cost of \$22,677,306. Case study provided by Architects Design Group, Inc.	
Orlando Police Headquarters & Crime Lab	21
The Orlando, Florida, Police Department constructed a new police headquarters and adapted an existing building for their crime lab in 2017. The facilities have a combined total square footage of 182,000 and were completed for a total cost of \$40,000,000. Case study provided by Architects Design Group, Inc.	
Grand Prairie Public Safety Headquarters	26
The City of Grand Prairie, Texas, constructed a new public safety facility for the Grand Prairie Police Department and other city officials in 2010. The facility has a total square footage of 149,729 and was completed for a total cost of \$45,800,000. Case study provided by Brinkley Sargent Wiginton, Inc.	

Tolleson Police and Municipal Court

Tolleson Police and Municipal Court

Located: Tolleson, Arizona

Total Square Footage: 22,400 square feet (sq ft)

Total Cost: \$7,819,495

History of Project

In 2007, Tolleson, Arizona hired Dewberry to complete a needs assessment study, schematic design, and design development for this new police and municipal court facility. Located 12 miles west of downtown Phoenix, Arizona, this new \$7.8 million facility serves the community of Tolleson, which has a population of 6,800.

The 22,400 sq ft facility features police operation support functions including an Emergency Operations Center (EOC), investigation, patrol, booking, records, evidence and property processing and storage areas, a separate juvenile processing area, and a fitness center. The municipal courts area includes records clerks, courtroom, jury deliberation, and attorney-client rooms. The new civic gateway building also offers a community room where residents can hold meetings. The building form and massing of the new police station takes its cues from the vol symbol, a pair of outstretched wings, which can symbolize justice, protection, and speed, creating an ideal metaphor for the police station. The two wings manifest themselves as a pair of butterfly roofed pavilions that house most of the departments. The space captured in the middle consists of entry lobbies, circulation, building support spaces, and a fitness room that opens to a light filled inner courtyard. The project was designed to LEED Silver certification requirements and has become an example of sustainable leadership within this small Arizona community.

Main Objectives of the Facility

- Utilize efficient design with the sharing of a common lobby, restroom, and storage spaces between the police and court.

- Create a strong “Patrol Triangle” layout for improved operational efficiency.
- Ensure there are double-loaded, naturally lit “main streets” for staff circulation that promote cross-pollination of staff for communication, information sharing, and morale.
- Incorporate terra cotta and stucco materials on the exterior.
- Ensure the interior design is organized along two main corridors to feed into the separate police and municipal courts departments.
- Ensure the public safety facility features all necessary police operation support functions such as an emergency operations center (EOC), administrative areas, evidence and property processing and storage areas, a separate juvenile processing area, and a fitness center.
- Ensure the municipal courts area includes records clerks, courtroom, jury deliberation, and attorney-client rooms.
- Design a community room where residents can hold meetings.
- Design a facility that meets LEED Silver certification standards.

Benefits of a Shared Facility

The shared police department and municipal court facility benefits the agency, the court, and the community in the following ways:

- The municipal court was able to benefit economically by taking advantage of a larger construction project. By building the court with the police department, the court space was able to be built at a lower cost because it was able to share many of the functions that the police department already had available.
- The court and police were able to take advantage of shared spaces such as the public lobby, security checkpoints, and restrooms.

Timetable

In January 2007, the City of Tolleson decided to move forward with the project. Dewberry was contracted in June 2007 to complete the needs assessment and facility design. In January 2008, a construction manager was hired, and, in February 2008, Dewberry began design for the project. Groundbreaking took place in January 2010, and the project was completed in January 2011.

End Result

Since the project's completion in early 2011, the Tolleson Municipal Court and Police Department have been successfully serving the City of Tolleson, Arizona. The new space has given the police department and court the space they desperately needed to perform their duties while also allowing the city to renovate the existing spaces that the Police Department used to occupy into usable space at the city hall.

Lessons Learned

A main priority throughout the project was to bring the police department and municipal court together under two iconic roof forms while creating an inspiring new image for the community. It is critical that all involved stakeholders remain engaged throughout the process to ensure that a shared facility meets the needs of each end user.

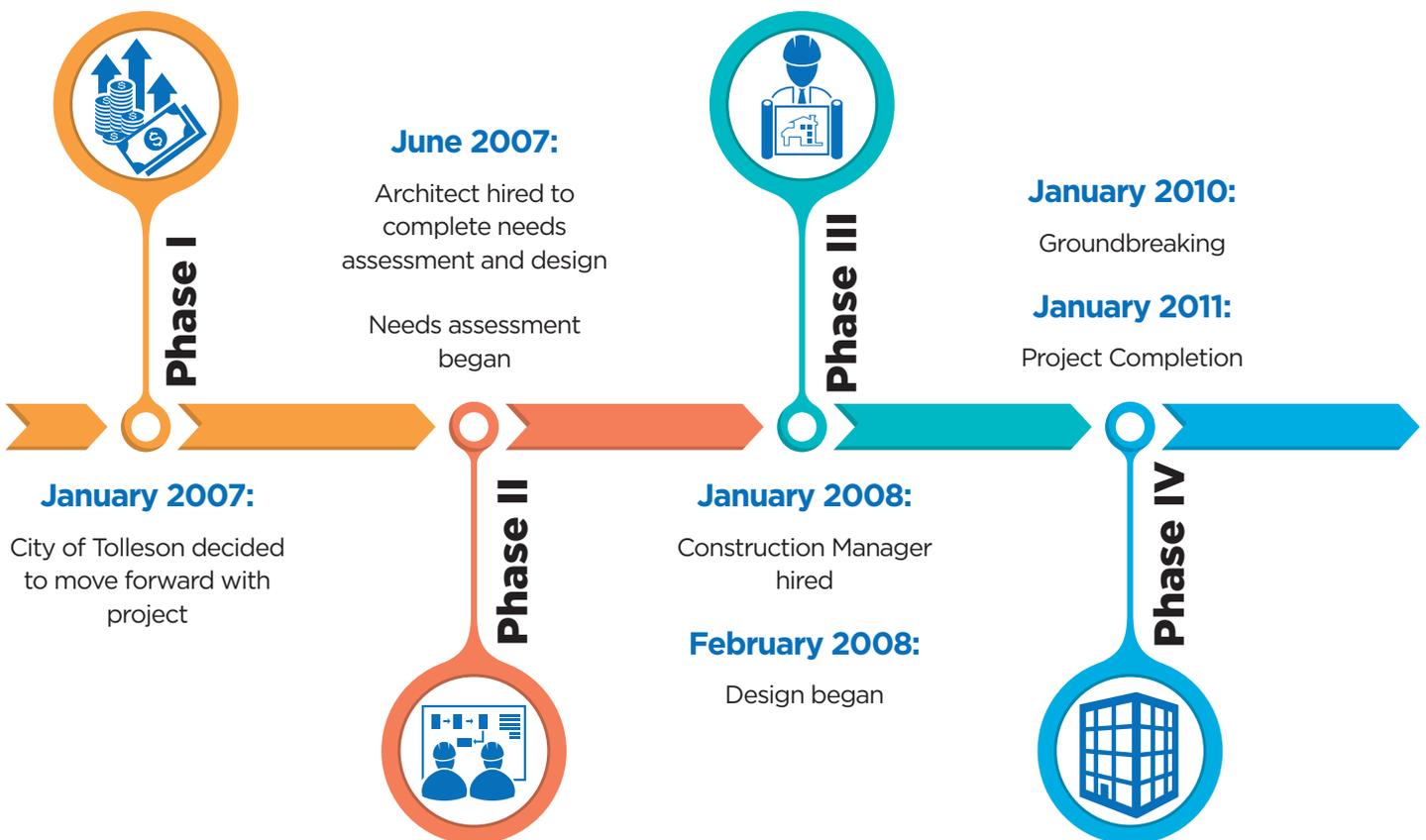


Planning and Design Architect:

Dewberry Architects Inc., Elmhurst, IL

Architect of Record: HDA Architects LLC, Gilbert, AZ

Construction Manager (CMR): Core Construction
Phoenix, AZ



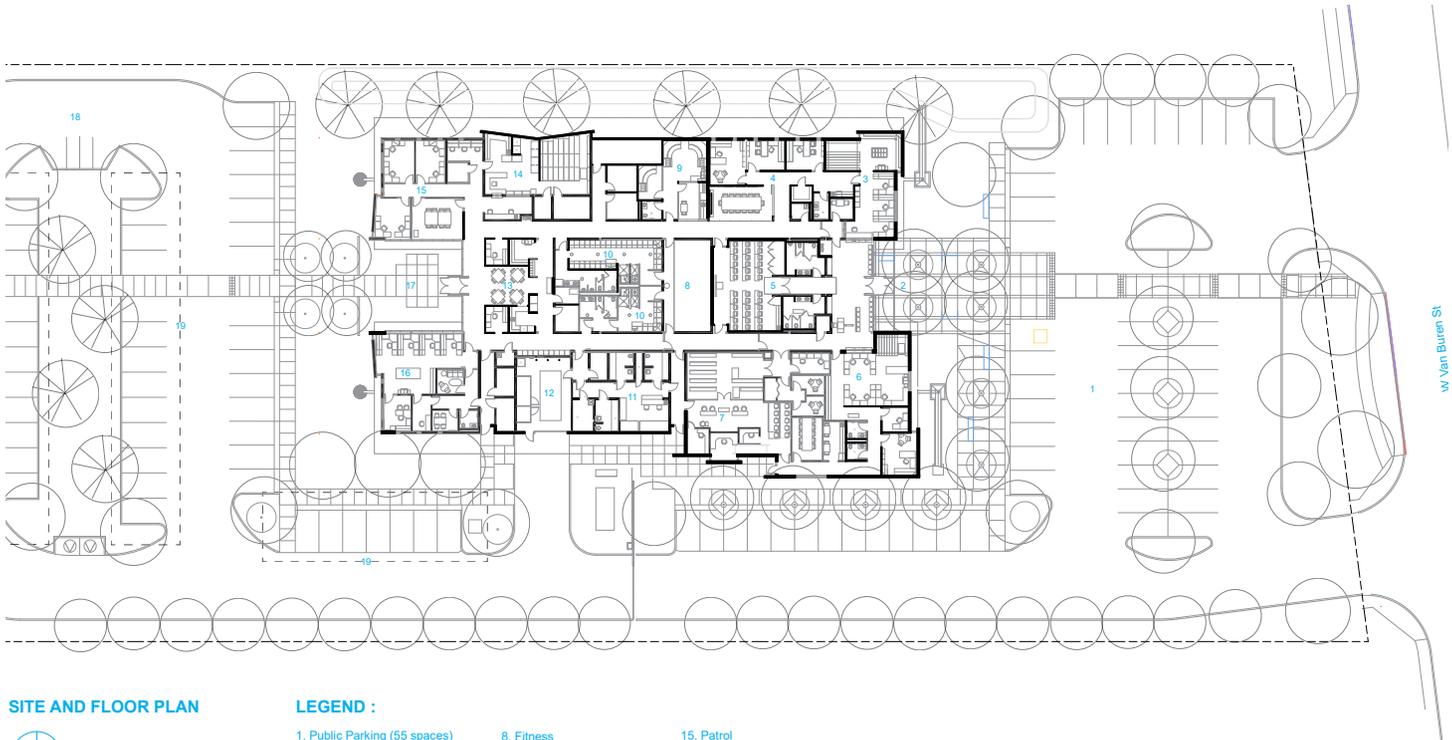
PRE-BID PROJECT COST PROJECTIONS

Construction Cost Projections:

Area	Cost	Cost per sf
Main Building	\$ 6,633,211	\$296/sq ft
Site	\$ 1,179,282	
CMR Fee	\$ 390,000	
Design Contingency	\$ 260,000	
Subtotal: Construction Budget	\$ 7,800,000	
Soft Costs	\$ 200,000	
TOTAL PROJECT BUDGET	\$ 8,000,000	
FINAL CONSTRUCTION COST	\$ 8,000,000	

Program Floor Plan





SITE AND FLOOR PLAN



LEGEND :

- | | | |
|-------------------------------|-------------------------|--|
| 1. Public Parking (55 spaces) | 8. Fitness | 15. Patrol |
| 2. Public Entry & Plaza | 9. 911 Dispatch | 16. Investigations |
| 3. Records | 10. Staff Locker Rooms | 17. Staff Entry & Courtyard |
| 4. Administration | 11. Booking & Holding | 18. Staff Secured Parking (68 spaces) |
| 5. Community / Training Room | 12. Sallyport | 19. Carport Structure with P.V. Panels |
| 6. Municipal Court Clerks | 13. Staff Break Area | |
| 7. Municipal Courtroom | 14. Evidence & Property | |



Briefing Room



Shared Police & Courts Public Lobby

Marshall Regional Law Enforcement Center

Marshall Regional Law Enforcement Center

Located: Marshall, Michigan

Total Square Footage: 35,000 square feet (sq ft)

Total Cost: \$9,103,811

History of Project

Coming out of the 2008–2011 recession, many states, including Michigan, encouraged local governmental agencies to explore collaborative facility planning efforts as a means to reduce costs and increase efficiency. The State of Michigan offered Economic Vitality Incentive Program (EVIP) grants to help fund these efforts.

Three law enforcement agencies—the Marshall Police Department, the Calhoun County Sheriff’s Office, and the Michigan State Police—entered into an agreement to explore the benefits of designing a single police building that all three agencies would share. The study accounted for the inclusion of the Calhoun County Emergency Operations Center.

The goal of this study was to develop a business plan that would achieve the economic, operational, and collaborative benefits of a single facility.

Each agency had specific reasons that mandated a new facility. A grant was received from the Michigan Municipal League Foundation to fund the study, under the State of Michigan Shared Services Initiative Program. Redstone Architects/Redstone Public Safety Consulting Group was chosen to do the study.

Main Objectives of the Study & Planning Phase

- Identify the space and operational needs of the three agencies, including the county’s emergency management department.
- Create a preliminary design for a regional law enforcement center that incorporated those needs.

- Identify parcels of property in the Marshall area that would accommodate the regional law enforcement center.
- Develop a project cost estimate for the regional law enforcement center.
- Identify funding sources and mechanisms to implement the project.
- Develop an operational business plan that included sharing personnel and allocation of annual operating costs.
- Identify the economic benefits to the agencies, the county, and the State of Michigan

The study was delivered to the City of Marshall in January 2012. Of the 65,000 sq ft of planned space, over 49,000 sq ft was identified as “shared spaces.” An additional outbuilding of 30,000 sq ft was divided among the three agencies for agency-specific use.

Benefits of a Shared Facility

Tangible benefits of the regional center included significant economic benefits to the community and the agencies:

- **City of Marshall:** Over 60 white collar jobs came to Marshall. By having the county operate the front desk and the MSP operate the Property Room, Marshall eliminates the equivalent of 1.75 full-time personnel, or \$87,500 per year in staffing costs.
- **Calhoun County:** Travel time to conduct business with the sheriff’s office was reduced for residents on the east side of the county. Bonding out prisoners no longer requires a drive to Battle Creek for arrestees that are arraigned from the new facility. This may also reduce the time prisoners spend in lockup, which will reduce exposure to liability claims, as well as reducing the prisoner count in Battle Creek.

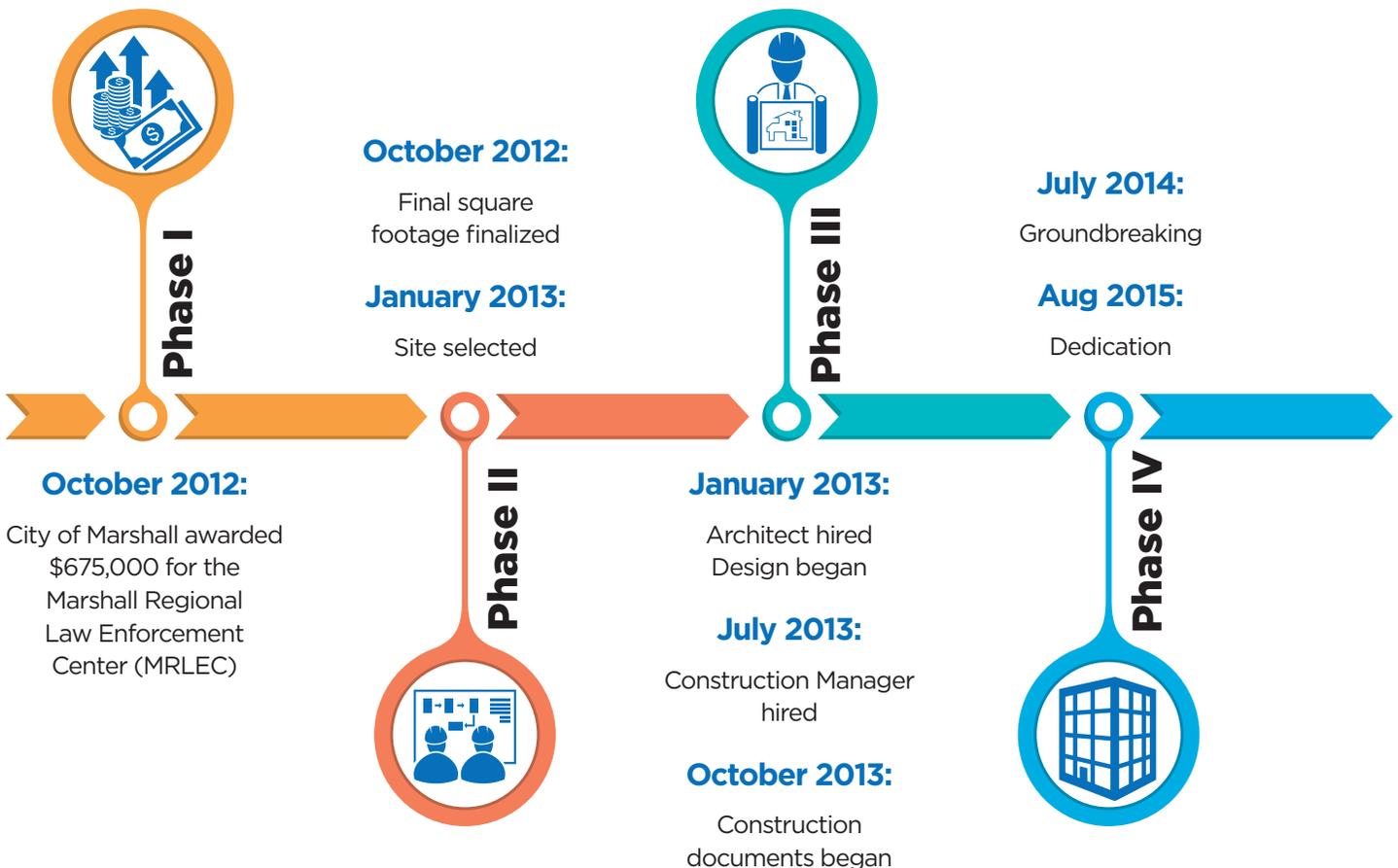
- **Michigan State Police (MSP):** MSP gained access to significantly more facilities than it normally has at new posts. By sharing staff, MSP also saves the equivalent of 1.25 full-time personnel, or \$87,500 per year in its staffing costs. MSP also eliminated the operating costs of the Coldwater Post by moving to this more central facility.
- **All three agencies** share proportionally in the building's operating costs, significantly reducing annual operating costs compared to each agency having its own facility.
- **Regional & State Economic Impact:**
 - By locating the new regional center in close proximity to I-94 and I-69, law enforcement is better able to participate in Michigan Department of Transportation's Quick Clearance Initiative for accidents on I-94.
 - Providing "hoteling" offices for state employees saves the State of Michigan over \$350,000 annually by reducing unnecessary travel.

- The Michigan state economy would benefit by an estimated \$5,000,000 annually because of the facility's energy efficiency upgrades and personnel cost savings.

Timetable

After the study was completed, Calhoun County decided not to participate in the planned facility because the sheriff's office had moved out of Marshall. However, in July 2012, the project continued with the City of Marshall and MSP. The planned space was reduced to approximately 33,000 sq ft and an additional 10,000 sq ft outbuilding.

In October 2012, the City of Marshall was awarded \$675,000 for design fees by the State of Michigan under a Competitive Grant Assistance Program (CGAP) for the Marshall Regional Law Enforcement Center (MRLEC). By this time, Calhoun County had rejoined the effort by moving the sheriff's office back to Marshall, the county seat. The final square footages were 35,000 for the main building and 17,500 for the outbuilding.



PRE-BID PROJECT COST PROJECTIONS

Construction Cost Projections:

	Area	Cost	Cost per sf
Main Building	36,000 sq ft	\$ 6,593,520	\$184/sq ft
Outbuilding	17,500 sq ft	867,124	\$50/sq ft
Site	10 acres	1,050,000	\$100,000/acre
CMR Fee		772,440	
Design Contingency		425,000	
Subtotal: Construction Budget		\$ 9,700,000	
Soft Costs		2,000,000	
TOTAL PROJECT BUDGET		\$11,700,000	
FINAL CONSTRUCTION COST		\$ 9,103,811	

The city finalized a site location over the first few months of 2013. A 10-acre site was chosen and schematic design began shortly thereafter. A construction manager (CMR) was engaged in July 2013 and construction documents began in October 2013.

Groundbreaking occurred on July 22, 2014, and the project was finalized and dedicated on August 31, 2015.

End Result

Since the dedication in 2015, the three law enforcement agencies have worked together in a collaborative environment that is inviting to the public and secure for its occupants.

With a shared facility, it is critical to determine early in the process how building construction and maintenance costs will be shared. Cost sharing percentages were developed during the design phase by identifying each agency's individual and shared space usage. The same percentages are used to allocate annual operating costs, including cost of personnel staffing the front desk, property room, and building maintenance.

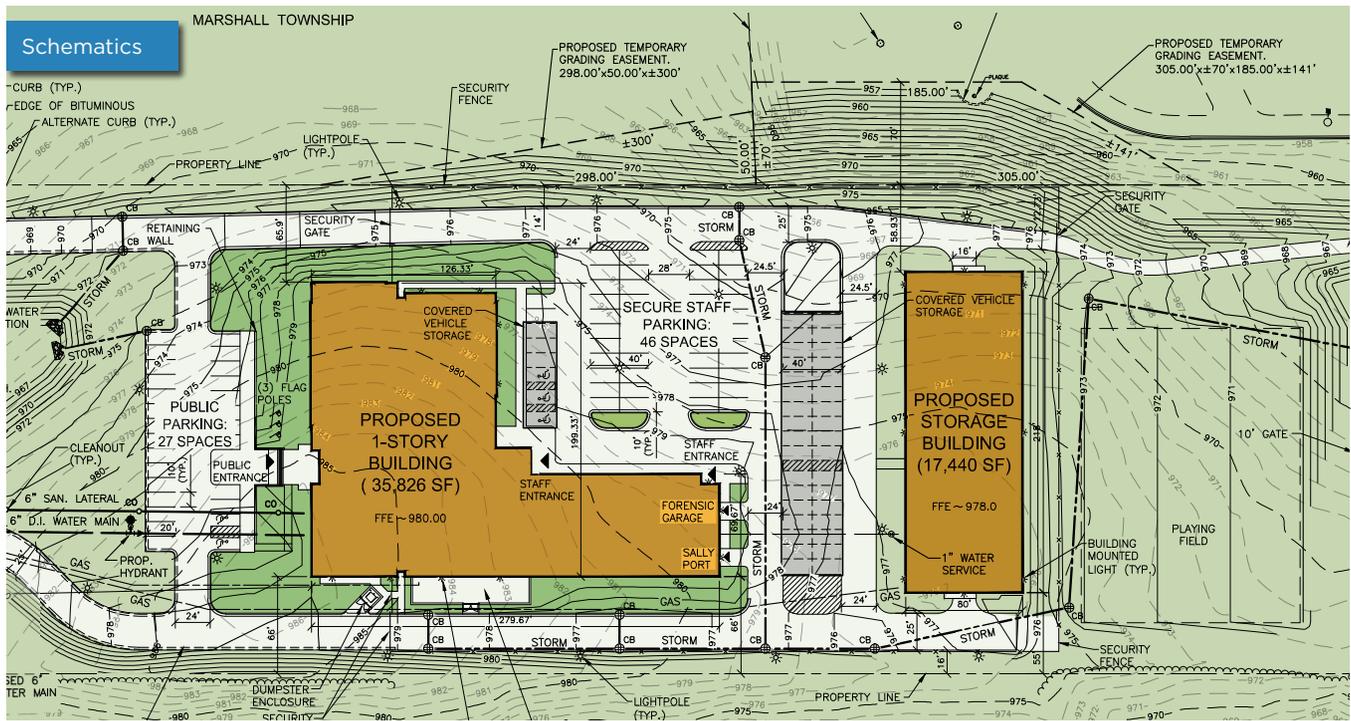
The most important result is enhanced communication among all three agencies now that officers and employees from different agencies can communicate directly to one another on a daily basis without the constraints of political boundaries or physical location.

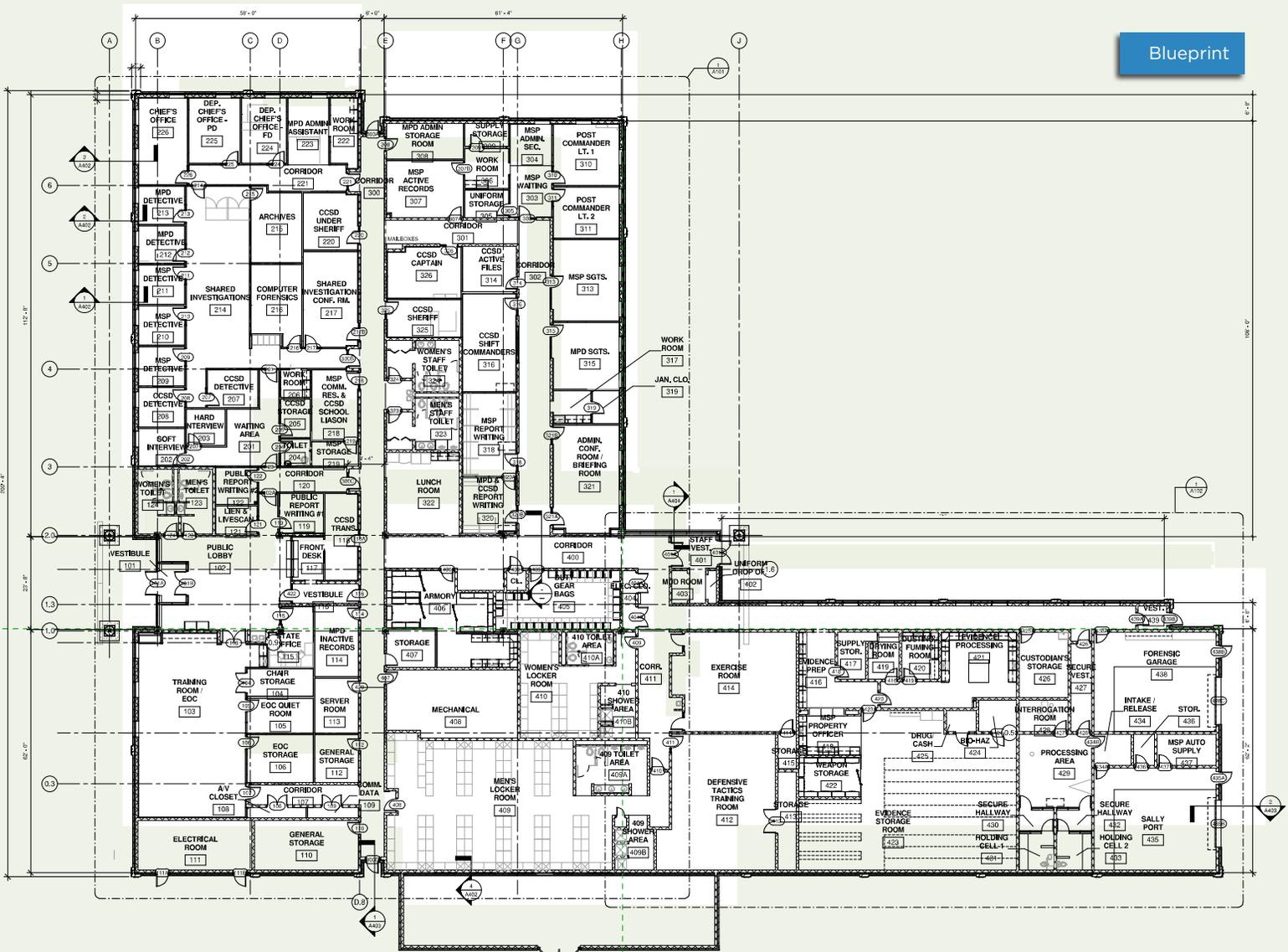
Lessons Learned

Gaining government and community support for a multiagency shared facility can take years. It is important that the leaders of each agency are involved throughout the project and work together to ensure the facility meets the needs of all stakeholders and users. There must be a documented financial plan that clearly defines expectations regarding division of space, shared space usage, and cost sharing percentages. It is also important for this document to explicitly outline the benefits of such a facility to each agency and community.

Architect of Record: Redstone Architects, Inc., Bloomfield Hills, MI

Construction Manager (CMR): Clark Construction Co., Lansing, MI





Glen Ellyn Police Station

Glen Ellyn Police Station

Located: Glen Ellyn, Illinois

Total Square Footage: 30,000 square feet (sq ft)

Total Cost: \$13,510,000

History of Project

In 2011, the Village of Glen Ellyn realized the police department had outgrown the existing facility, located in the downtown civic center, and requested a space needs assessment be conducted for the police department. The village hired Dewberry Architects, Inc., to conduct the study. After the initial space needs assessment was completed, the village requested that Dewberry conduct further study into the options of constructing an addition to the existing 1930s civic center, as well as new construction at multiple locations around the village. Between 2009 and 2015, the Village of Glen Ellyn engaged Dewberry to conduct studies of various additional renovation options versus new construction options to confirm which option would provide the greatest value for the village.

In 2015, the Village of Glen Ellyn moved its police department out of the historic civic center downtown and into a new facility, triple the size and located at the east edge of Panfish Park, which is surrounded by residential neighborhoods. This park site was selected for its location within the village. A primary goal for the village was to fit the facility seamlessly into the community and provide a community room and public spaces on the south side of the village. The public parking and plaza areas act as a gateway to the improved adjacent park. The site conditions, however, presented many challenges. Over half the site had bad soil and is in the 100-year flood plain, an area subject to severe flooding, requiring strict adherence to site and building codes to ensure the new facility can withstand potential floods. Due to the revised

floodplain boundary, the police building footprint needed to be shifted west out of the floodplain in order to maintain operations in the event of a flood event. Another primary goal for the village was to ensure officer safety, since safety was an issue in the previous facility. For example, officers would take their suspects into custody via public parking lot into a garage on a steep decline. This was changed in the new facility. Throughout the design and construction process, community and officer safety remained a priority.

Main Objectives of the Facility

- Meet project budget of \$13,510,000.
- Provide public space to the residents on the south side of the village, including a separate community room.
- Include a cutting-edge training room for the police department.
- Ensure efficient workflow that allows patrol officers to spend more time on the street than in the building.
- Address evidence storage needs; including, locating evidence storage in a position where additional storage space can be added in the future.
- Fit facility seamlessly into the park setting.
- Scale facility so as not to overwhelm the residential houses to the south and west of the site and make design friendly to neighboring sites.
- Incorporate design features and equipment that ensure and promote officer safety inside and outside of the building.

Design Features to Meet Objectives

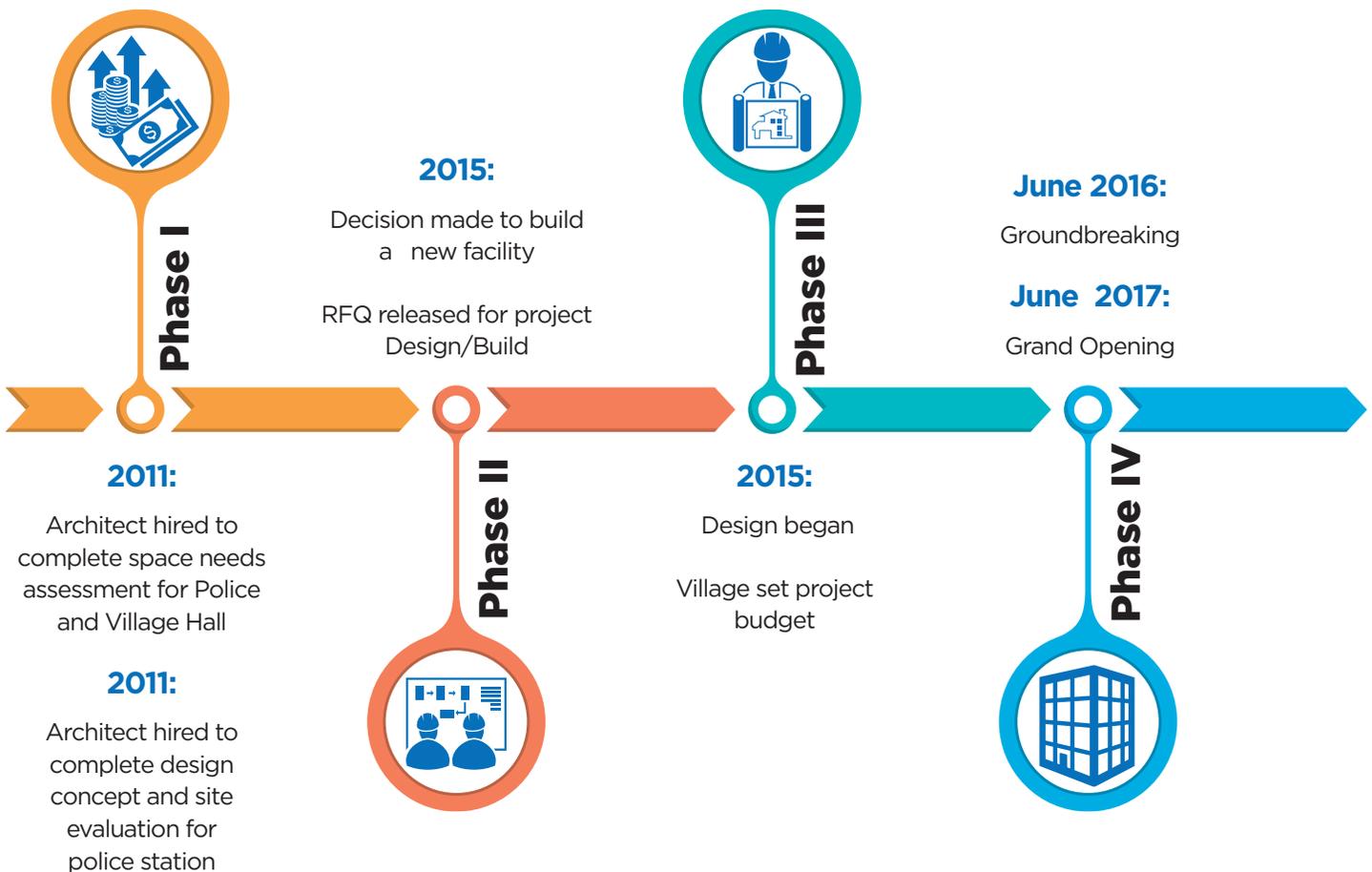
In order to meet the objectives of the facility, the following specialized design features were incorporated into the Glen Ellyn Police Department’s new facility.

- An advanced proprietary exterior wall construction system that integrates a concrete masonry unit, water management, and high R-value insulation.
- A unique integration of dynamic glazing used in the lobby and community room automatically adjusts its tint every few minutes based on the amount of light passing through the glass—balancing daylight goals while reducing glare and solar heat gain. First floor program spaces that include a community room, records, patrol, booking and holding, evidence processing, locker rooms, break area, and a fitness room.
- The second floor program spaces include the Command suite, Investigations Division, the EOC / Training Room, and building mechanical spaces. A master plan includes future expansion of evidence storage, patrol, and investigations along the east side of the building.

- A massing and material palette that was inspired by the natural setting of the park and includes stone, glass, and fiber cement panels that look like wood.
- An inviting, transparent, two-story lobby entrance that seamlessly leads to public amenities.

Timetable

After approximately six years of needs studies, planning, and gaining political support for the project, the village decided to hire the design build team of Leopardo Construction Companies and Dewberry to design and construct the new facility. The village set a budget of \$13,500,000 for the project after schematic design had been completed, and the first estimate was given to the Village Board for review. The groundbreaking took place in June 2016, and the project was completed in June 2017.



PRE-BID PROJECT COST PROJECTIONS

Construction Cost Projections:

	Area	Cost	Cost per sf
Main Building	30,000 sq ft	\$ 11,804,000	\$394/sq ft
Site	3.5 acres	Owned by Village	
CMR Fee		\$ 307,114	
Design Contingency		\$ 150,000	
Subtotal: Construction Budget		\$ 12,972,000	
Soft Costs		\$ 537,000	
TOTAL PROJECT BUDGET		\$ 13,510,000	
FINAL CONSTRUCTION COST		\$ 13,510,000	

End Result

Since the completion of the project, the community room has been booked by the public every week. The officers no longer have to worry about leaving the building after a shift and heading into a non-secure parking lot. The vacated facility has since been renovated by the village into functional space for village employees, from the Planning and Development Department and Finance Department, while also locating their departments' service windows near the main entry of the civic center.

To address the issue of officer safety, the new facility has a sally port that is much safer and larger and is accessed privately. The new facility also addresses the issue of conducting police interviews immediately adjacent to administration offices, which caused problems in the previous facility. According to the former assistant chief, the new facility is "much safer, much cleaner, and much larger."

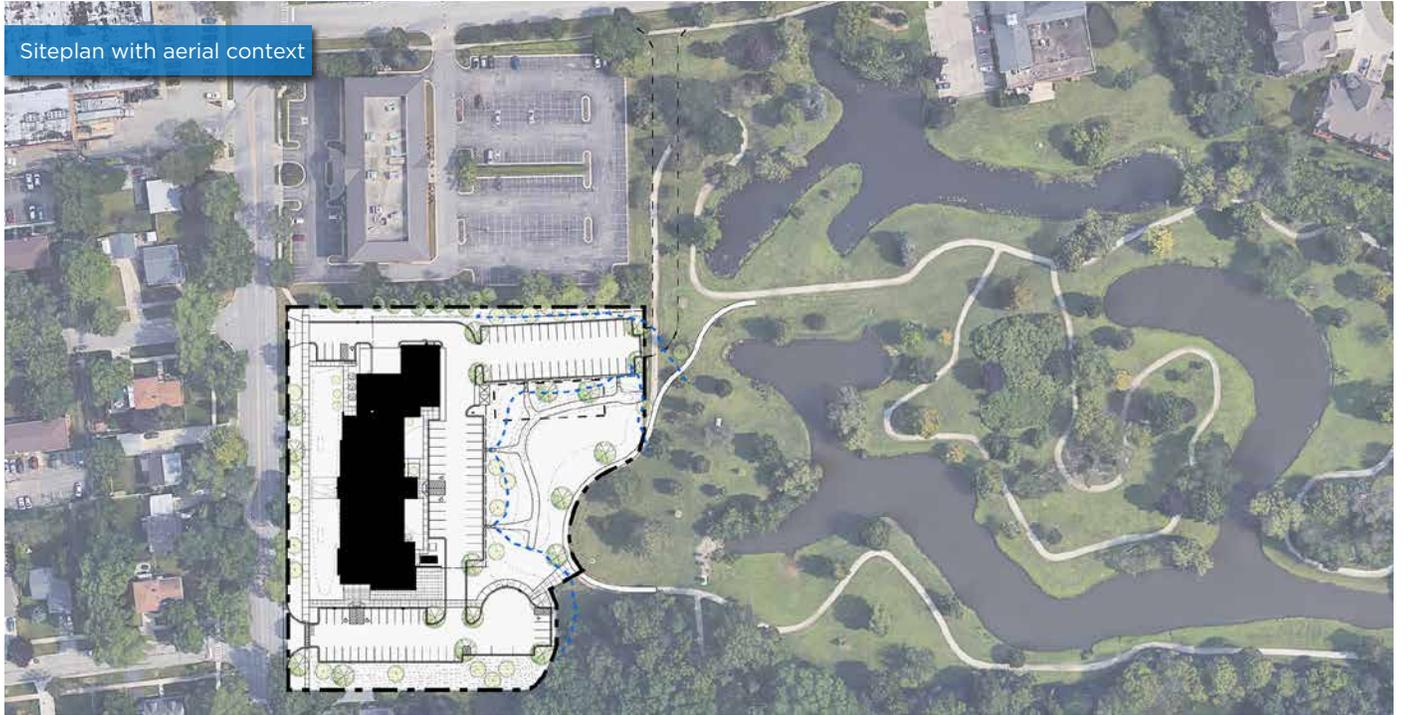
Lessons Learned

One of the biggest challenges in beginning a police facility construction project is determining whether to renovate or build a new construction. Stakeholder input from multiple sources may complicate this decision further. It is important to develop detailed comparison matrices to evaluate all possibilities and costs associated with each option.

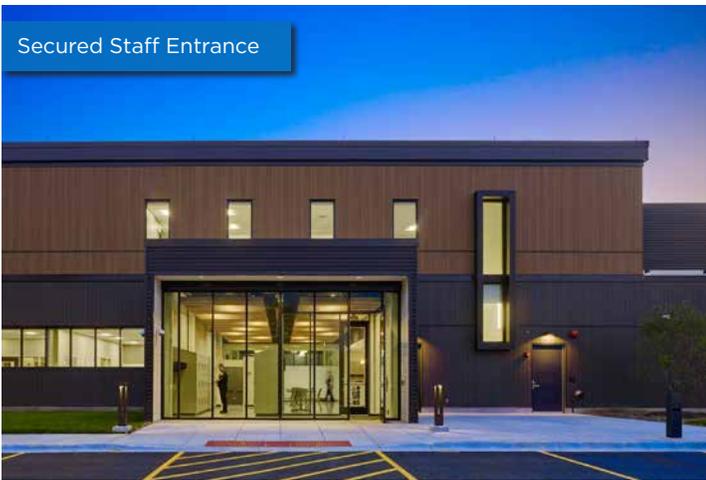
Blending department culture and operations with community needs in a highly visible area in the community is critical, but challenges may occur when addressing security, safety, and budget concerns. One of the challenges faced during this project was orienting the new building toward the street to express a more open community presence and a more intimate, protected pedestrian experience from the park. The solution was to place most of the building mass up close to the street with an inviting two-story corner entrance for the public. The "back" of the building facing the park was designed with warm materials and carefully placed windows that comply with Crime Prevention Through Environmental Design (CPTED) principles to allow for good two-way observations.

Architect of Record: Dewberry Architects, Inc., Elmhurst, IL

Design-Build Team: Leopardo Construction Companies, Hoffman Estates, IL



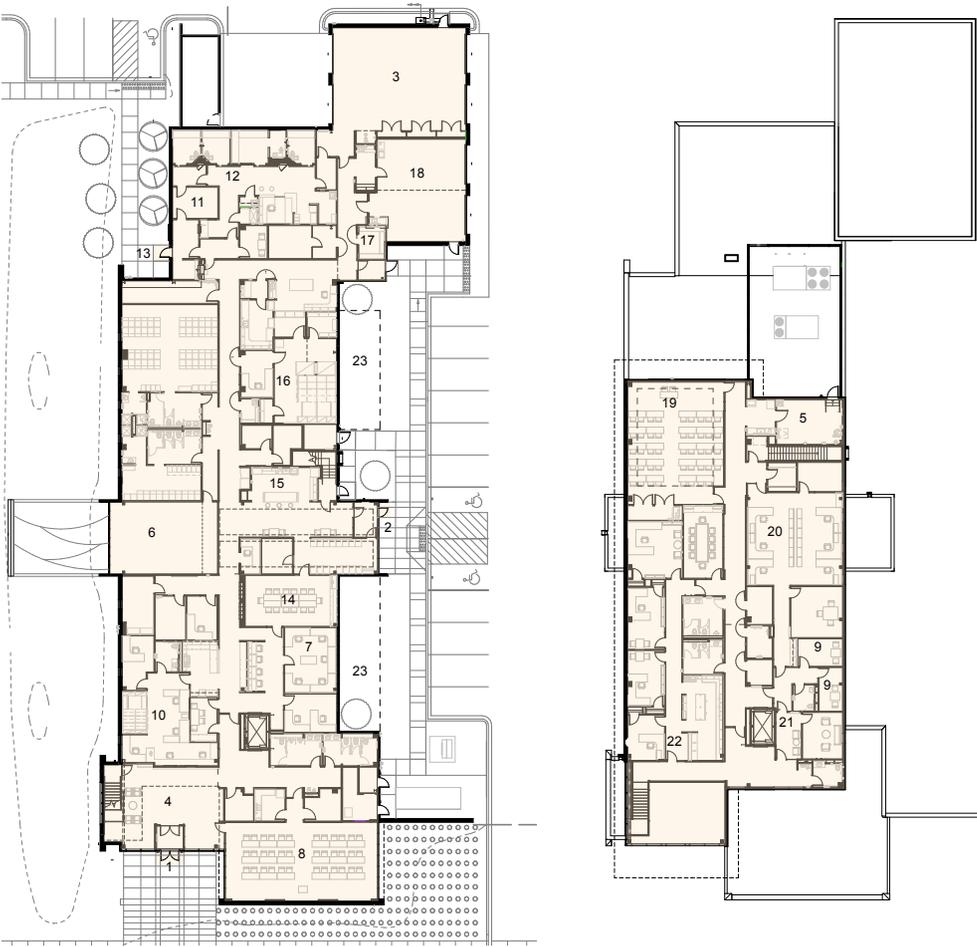
Siteplan with aerial context



Secured Staff Entrance

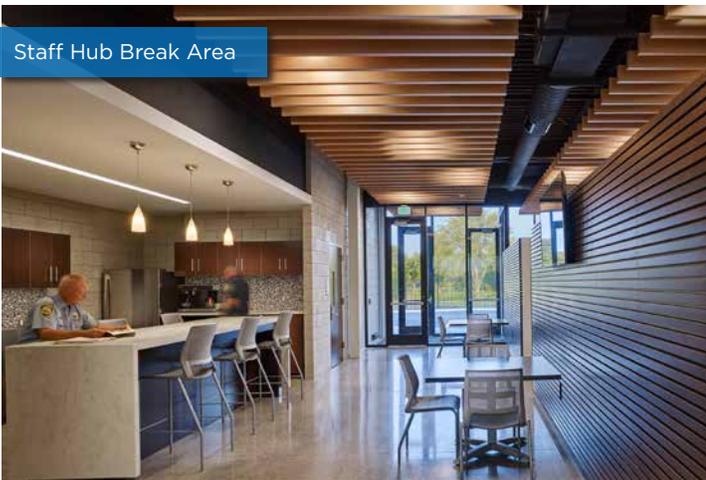


Public Entrance



LEGEND

- 1. Public Entrance
- 2. Staff Entrance
- 3. Sally Port
- 4. Lobby
- 5. Building Support/Storage
- 6. Fitness
- 7. Patrol Division
- 8. Community Room
- 9. Interrogation Room
- 10. Records
- 11. Juvenile Holding Suite
- 12. Booking/Holding
- 13. Bond Out
- 14. Roll Call/Training Room
- 15. Staff Break
- 16. Evidence/Property Suite
- 17. Armory
- 18. Specialty Vehicle Bay
- 19. EOC/Training Room
- 20. Investigations Division
- 21. Interview Suite
- 22. Administration Division
- 23. Future Expansion



Staff Hub Break Area



Public Lobby

Georgetown Public Safety & Training Complex

Georgetown Public Safety & Training Complex

Located: Georgetown, Texas

Total Square Footage: 106,353 square feet (sq ft)

Total Cost: \$22,677,306

History of Project

In 2003, Georgetown, Texas, identified the need to build a new facility, but the project was left unfunded in the annual budget. From 2003 to 2010, the city presented several options to house the police department, including renovating an existing library and renovating a non-hardened grocery store, but no progress in funding was made. In 2011, the city hired Architects Design Group (ADG) to update an existing spatial needs assessment and conduct an analysis of a new site for the development of a co-located public safety facility for the Georgetown Police and Fire Departments. At this time, funding was still the city's greatest hurdle. In 2011, the police chief and fire chief led an aggressive community outreach program, demonstrating the benefits of a combined public safety facility for citizens. The campaign included several meetings with community groups and residents to inform them of the benefits in preparation for a bond election to fund the project. The efforts were a success and voters approved the bond. ADG continued the effort through the planning and design phases to leverage all community resources and gain acceptance of the project. Numerous meetings were conducted with the community, planners, and interested citizens to demonstrate how the design fit seamlessly into the community's context.

Main Objectives of the Facility

- Consolidate police and fire services on one campus, including the city's 911 communications and emergency operations center.

- Provide a state-of-the-art facility, appropriately sized for future growth, within the city's budget.
- Provide ample space for several training venues including classrooms, reality-based training, physical agility, emergency vehicles operations and obstacle courses, and firearms range.
- Become a regional hub for public safety training.
- Create a community-friendly facility with unobtrusive security systems, while protecting public safety personnel and community assets.
- Maintain openness and transparency of the headquarters building.
- Address site design challenges, including location, building orientation, building security, site security, parking, pedestrian and vehicle access, and environmental factors such as karst formations.
- Design a split-level layout, integrating the structure with the site and its topography.

Community Impact of the New Facility

Tangible community benefits of the Georgetown Public Safety & Training Complex include the following:

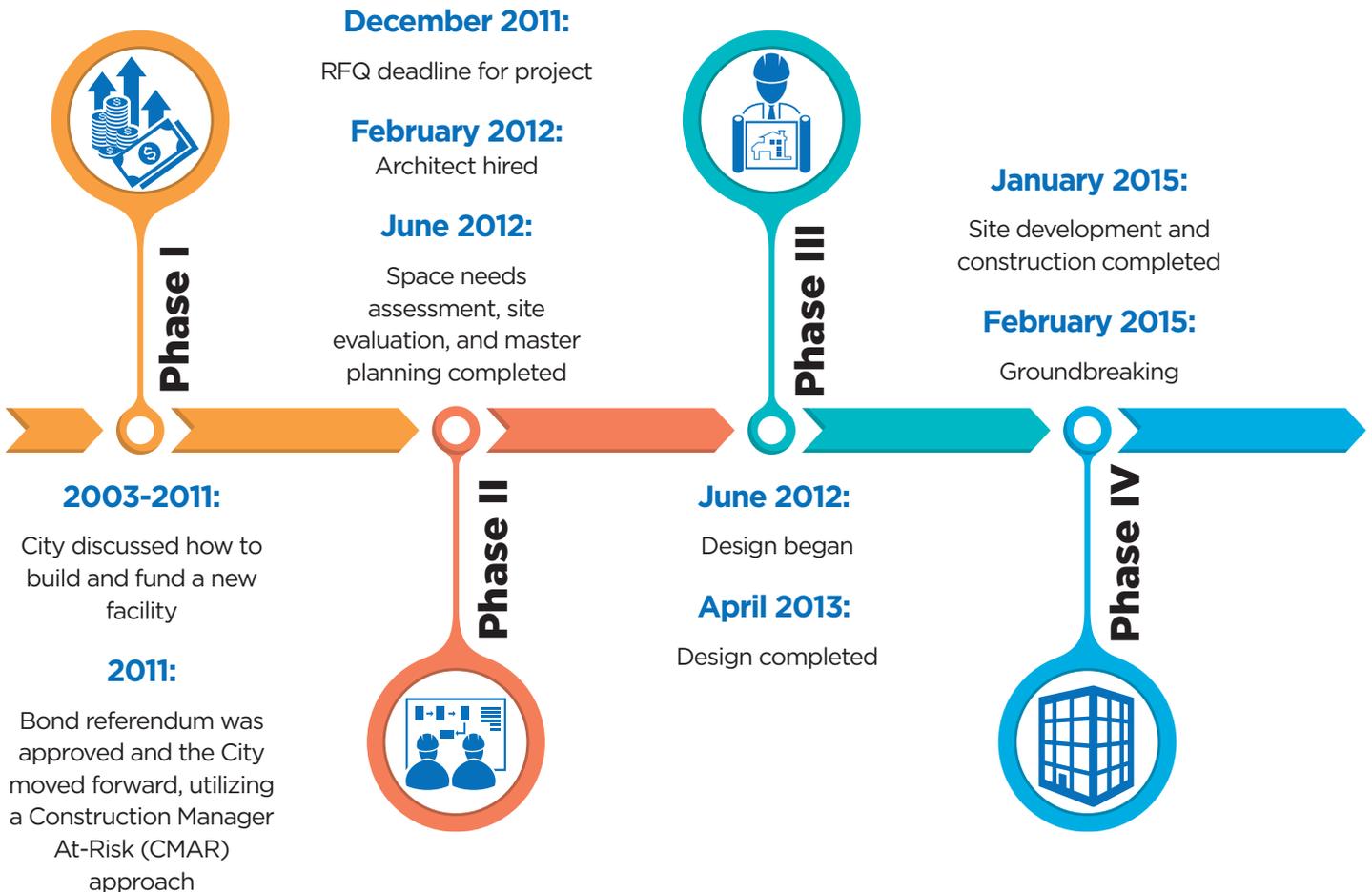
- **Co-Location of Public Safety Services:** Combining police and fire functions into one campus provides the community a "one-stop shop" for all public safety needs. The shared spaces support intra-agency/departmental cooperation and information sharing.
- **Facility Cost Savings:** In this region, police and fire facilities have similar building hardening requirements. Sharing the central energy plant, site development costs, technology, mechanical and electrical rooms, support spaces, and shared spaces such as the lobby, community meeting room, training classrooms, gym, cross fit box, and central break room provides significant cost savings versus duplicating these features in two separate buildings.

■ **Elevating the role of Law Enforcement:**

Openness and Transparency: The facility provides transparency at the public entry, lobby, and meeting spaces to welcome the community into the facility. Abundant natural light filters into the primary circulation corridor and primary assembly spaces to foster wellness of public safety staff and enhanced interaction and communication among personnel. Several community areas are incorporated within a secure setting to make the new complex a community asset.

Timetable

After years of failed attempts at securing funding and development options for a new building, the project finally gained momentum in 2011. The space needs analysis, site evaluation, and master planning took place April–June 2012, and design services took place between June 2012 and April 2013. Groundbreaking took place in April 2013, and the project was completed in February 2015.



End Result

The 106,353 sq ft Georgetown Public Safety Operations and Training Complex (the Complex) is designed to withstand F3 tornado forces and is able to maintain continuity of operations, accommodate state-of-the-art technologies, and meet future needs.

The Complex includes a 76,831 sq ft main building, containing administrative offices for the police department, fire department administration, community rooms, training classrooms,

communications center, EOC, physical agility and defensive tactics training rooms, locker rooms, quiet/decompression room, booking and intake facilities, and a central break room. The building also includes a chemical processing lab, a crime scene investigations lab, an evidence processing lab, and two vehicle evidence processing bays. The state-of-the-art labs utilize stainless steel counters, chemical-resistant cabinets, epoxy flooring, fume hoods, emergency eye wash station, and various counter-mounted materials analysis equipment. The bulk evidence storage is

PRE-BID PROJECT COST PROJECTIONS

Construction Cost Projections:

	Area	Cost	Cost per sf
Main Public Safety Building	76,831 sq ft	\$22,677,306	\$237 / sq ft
Training Simunitions Building	18,672 sq ft		
Owner Soft Costs		\$6,609,166	
TOTAL PROJECT BUDGET		\$ 29,500,000	
FINAL CONSTRUCTION COST		\$ 29,286,472	

located directly adjacent to the evidence processing lab. It contains high-density storage units that provide three times the storage capacity of conventional storage units. Additionally, three industrial refrigeration units for DNA evidence and storage for weapons, cash, hazardous materials, and narcotics evidence can be found here.

An additional 18,672 sq ft tactical training facility was also designed and constructed on campus. It includes a flexible training area with reconfigurable walls for reality-based training exercises with elevated catwalks, cross fit box, a video production room, storage and office space, an outdoor covered classroom, and rolling assets storage. A 10,850 sq ft hybrid indoor/outdoor firing range was also designed as a second phase of construction and is currently awaiting funding. The site also includes a third of a mile, slow speed EVOC track with a skid pad; a 125-foot high communications tower; obstacle course; and an on-site central energy plant. All facilities can be self-sustaining for up to 24 hours, enabling them to operate independent of infrastructure support services such as the electric power grid, municipal water systems, sewage treatment systems, storm drains, and communication services.

The facility provides transparency at the public entry, lobby, and meeting spaces to welcome the community into the facility. Abundant natural light filters into the primary circulation corridor and primary assembly spaces to foster wellness of public safety providers and enhanced interaction and communication among personnel. However, the site is carefully planned to separate public and secured access. The use of set-backs and blast-resistant envelope materials protects the public face of the facility. The primary building is zoned to allow access to public spaces, beyond which

video monitoring and access control devices secure critical operation spaces. The result is unobtrusive security measures in a highly secure facility.

The placement and size of building support footings required careful consideration of the difficulty of cutting into limestone, rather than digging through soil. These challenges had some impact on project cost, which was minimized by adjustment to site layout during the pre-design phase. The landscape of Central Texas is characterized by rolling topography and limestone karst cartography. The result is a design that marries the landscape materials, building form, and use of regional materials that establish a clear dialogue with the natural environment. The exterior of the facility complements the recently completed fire station and fire training tower, located next to the public safety site.

Lessons Learned

The city elected to utilize a construction management delivery system, but the builder was not formally added to the planning team until the end of the design development phase. The project would have benefited significantly from earlier communication and collaboration between the design team and the construction manager. If a construction manager has been identified at the onset of the project, their input and feedback would have been included during the pre-construction planning efforts.

Architect of Record: Architects Design Group, Winter Park, FL & Dallas, TX

Construction Manager at Risk (CMR):
Bartlett Cocke, Texas



Master Plan

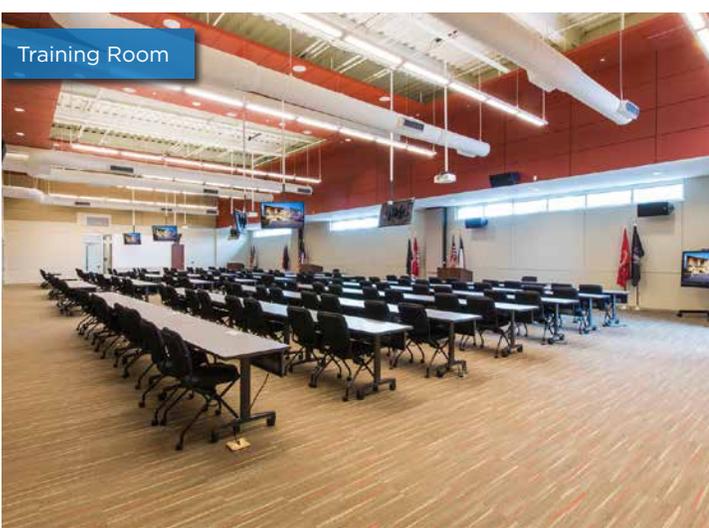
1. Public Entry Plaza
2. Public Safety Building
3. FEMA Secured Parking
4. Public Parking
5. Secured Parking
6. Exterior Vehicle Storage
7. Training + Exterior Classroom
8. SKID Pad
9. EVOC Training Area
10. Firing Range
11. Obstacle Course
12. Bioswale "Rain Garden"
13. Fire Burn Tower
14. Fire Training Building
15. Fire Department
16. Secured Access
17. Central Energy Plant
18. Secondary Access



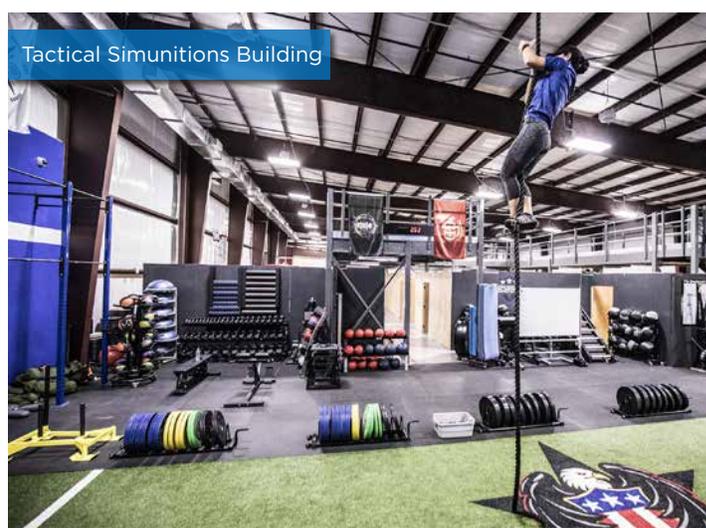
Exterior Front



Exterior 2nd Entrance



Training Room

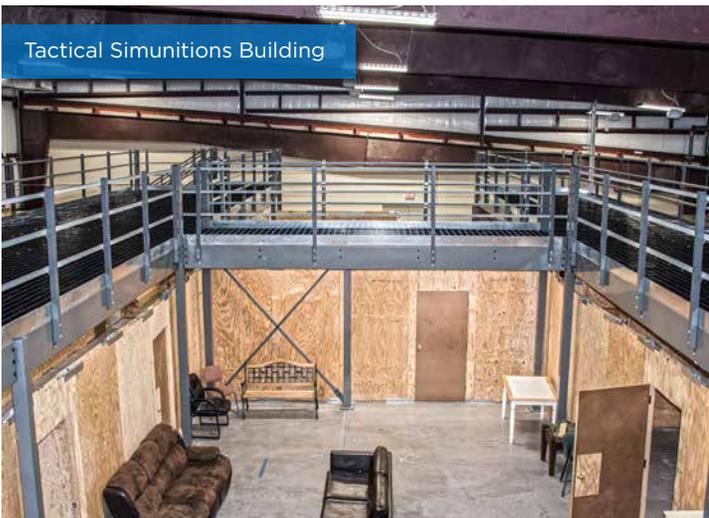


Tactical Simulations Building

Shared Lobby



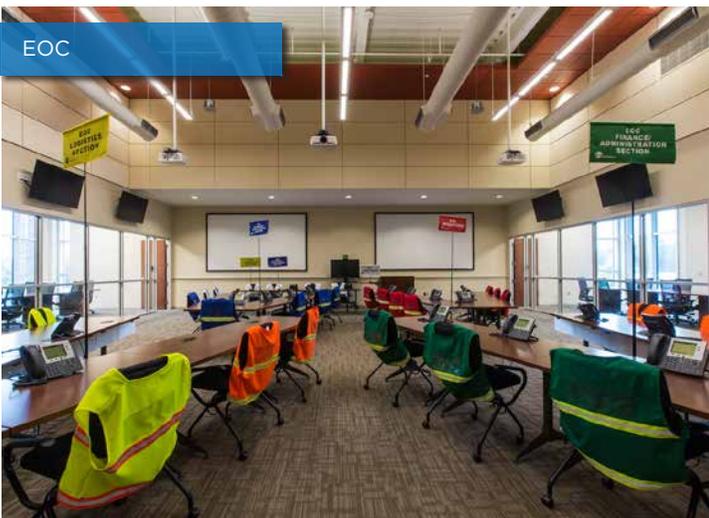
Tactical Simulations Building



Crime Lab



EOC



Workout Room



Orlando Police Headquarters & Crime Lab

Orlando Police Headquarters & Crime Lab

Located: Orlando, Florida

Total Square Footage: 182,000 square feet (sq ft)

Total Cost: \$40,000,000

History of Project

Orlando Police Department (OPD) was in a 40+ year-old aging headquarters that did not have the space to accommodate modern-day policing initiatives. Over the last 15 years, while several development options for new facilities were considered, all were unsuccessful in obtaining funding and/or political support. In 2013, the department gained momentum for the project as the city started negotiations with the Orlando Magic to buy the property currently occupied by the police department and its secured parking garage. The existing headquarters was located in a premium location in downtown Orlando, adjacent to the newly constructed \$380 million-dollar Amway Events Center, the home of the Orlando Magic. This situation created a winning situation for all parties, as the existing headquarters was redeveloped into an entertainment hub within the city spurring development and new jobs and the police department was able to build a new modern, state-of-the-art policing facility that is accessible to the community and promotes the department's mission statement: Keeping Orlando a Safe City by Reducing Crime and Maintaining Livable Neighborhoods. In February of 2014, the city moved forward with a building design with Architects Design Group (ADG) as the architect of record.

Main Objectives of the Facility

- Serve as a major catalyst for thoughtful urban growth while integrating into the sensitive context of the historic Parramore neighborhood. The economically disadvantaged, minority district west of the established urban core is being transformed by redevelopment projects and is a vital component to the downtown urban fabric

with three major athletic and entertainment venues in close proximity to the site.

- Provide a state-of-the-art facility, appropriately sized for future growth, within the city's fixed budget. After considering several options, only one concept would allow the project to be developed within the construction budget. The option proposed the adaptive re-use of an existing off-site warehouse for property and evidence, crime scene, and a portion of the training unit, as well as new construction of a 100,000+ sq ft police headquarters facility.
- Address design challenges on the 7.6-acre site including; but not limited to, location, building orientation, building security, site security, parking, and pedestrian and vehicle access to the site.
- Maintain openness and transparency of the headquarters building by allowing natural daylight into the public atrium, offices, and interior workspaces, while achieving the city's desired LEED Silver certification.
- Provide a design that will enhance and respect the history of OPD and the surrounding neighborhoods by using the lobby and community auditoriums to display local artwork and artifacts.

Community Impact of the New Facility

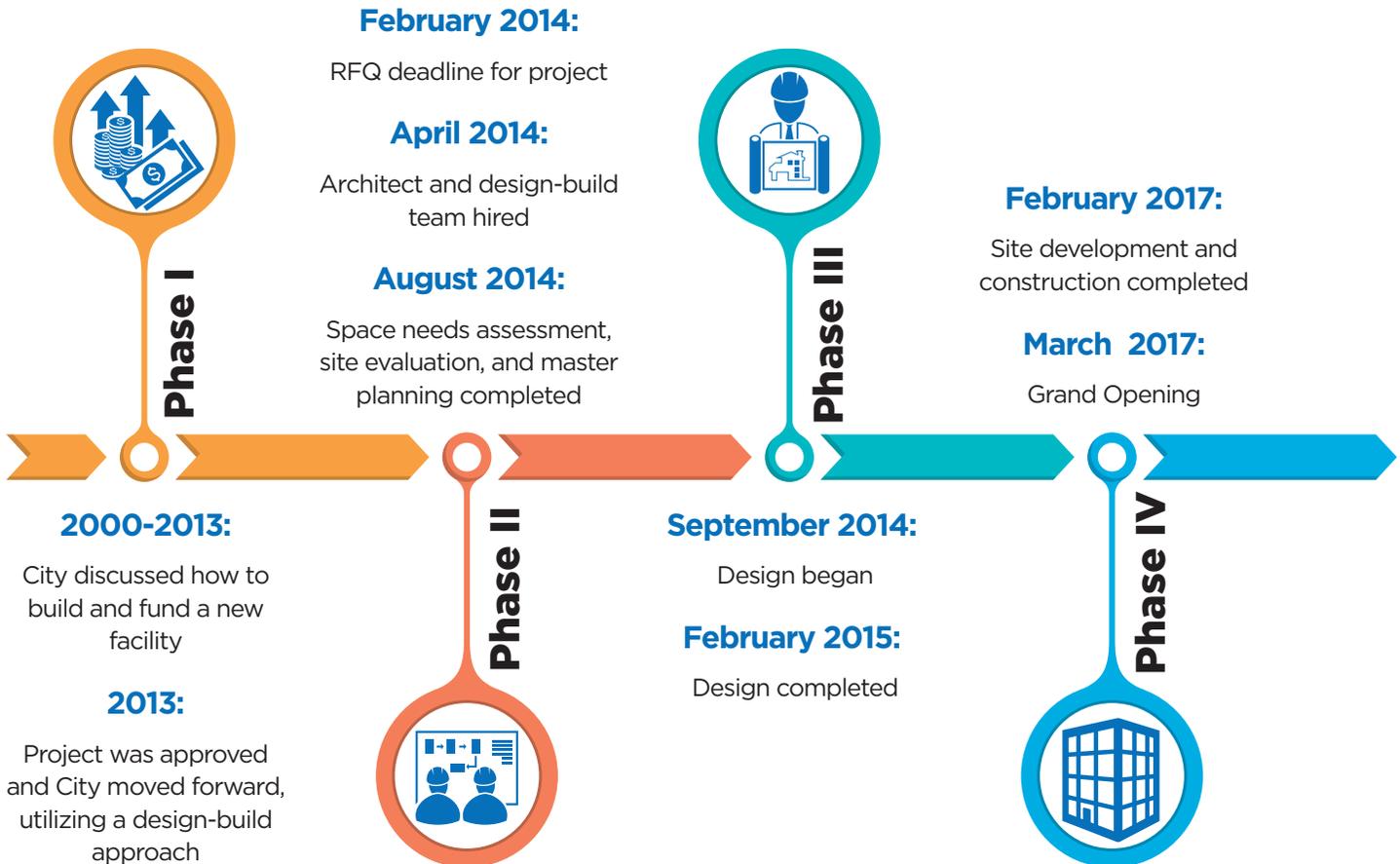
Tangible community benefits of the Orlando Police Department's new facility include the following:

- **A Catalyst for Thoughtful Urban Growth:** The selected site serves as a major catalyst for thoughtful urban growth while integrating itself into the sensitive context of a historic neighborhood, the Parramore District.
- **Elevating the Role of Law Enforcement by Openness and Transparency:** The building entrance is located at the most prominent corner of the headquarters site and welcomes visitors through the north entrance atrium. Extensive glazing on the north and west facades is used to

signal transparency of law enforcement activities and partnership with the community. Adjacent to the public lobby is a large auditorium/meeting room that hosts the Community Leadership Police Academy, as well as many other programs.

Timetable

After 15 years of failed attempts at securing funding and resources for a new building, the project finally gained momentum in 2013. The space needs analysis, site evaluation, and master planning took place June–August 2014, and design services took place between September 2014 and February 2015. Groundbreaking took place in April 2015, and the project was completed in March 2017.



End Result

Construction of a new 100,000 sq ft headquarters facility provides workspace to more than 450 officers. The building features a community meeting room for up to 320 people, a real-time crime center, and a 4,500 sq ft gymnasium; houses all administrative functions and fleet maintenance; and provides over 35,000 sq ft of office space for every bureau within the police department. The community meeting room is a multipurpose space with an adjacent warming kitchen and equipment storage space offering the flexibility to accommodate a full range of uses from graduation banquets for the police academy or other community-oriented meetings.

To remain within budget, the team redesigned an existing 82,000 sq ft warehouse to accommodate evidence operations. The facility includes the property and evidence unit as well as storage, crime scene investigations and processing labs, training rooms, high density storage, bulk receptor storage, drop lockers, vehicle processing, narcotics storage, and weapons storage. Critical infrastructure components are tied into the existing emergency operations center systems to provide redundancies for continuity of operations.

This project provides the department with 55,000 sq ft of evidence space and an additional 27,000 sq ft of shell space to be built-out for future growth.

PRE-BID PROJECT COST PROJECTIONS

Construction Cost Projections:

	Area	Cost	Cost per sf
New headquarters building	100,000 sq ft	\$ 23,532,755	\$ 235/sq ft
Site development for new building	7.6 acres	Included	Included
Renovation / adaptive re-use of warehouse for crime lab	82,000 sq ft	\$ 11,320,000	\$138/sq ft
Design Contingency		N/A	
Subtotal: Construction Budget		\$ 34,852,755	
Soft Costs		\$ 3,200,000	
TOTAL PROJECT BUDGET		\$ 40,000,000	
FINAL CONSTRUCTION COST		\$ 38,052,755	

Lessons Learned

It is important to complete a comprehensive space needs assessment and accurate budget estimate prior to beginning a facility construction project. This includes taking unforeseen site issues into account and completing thorough site evaluations prior to securing/purchasing the site. To create a newly constructed facility that met all defined program needs of the department would have required \$60,000,000; yet, the total funding allocated by the city was \$40,000,000 and included bond costs, project management, land acquisition, and demolition of existing structures. This resulted in having to adaptively reuse an existing warehouse to accommodate evidence operations, as opposed to building a new evidence storage facility

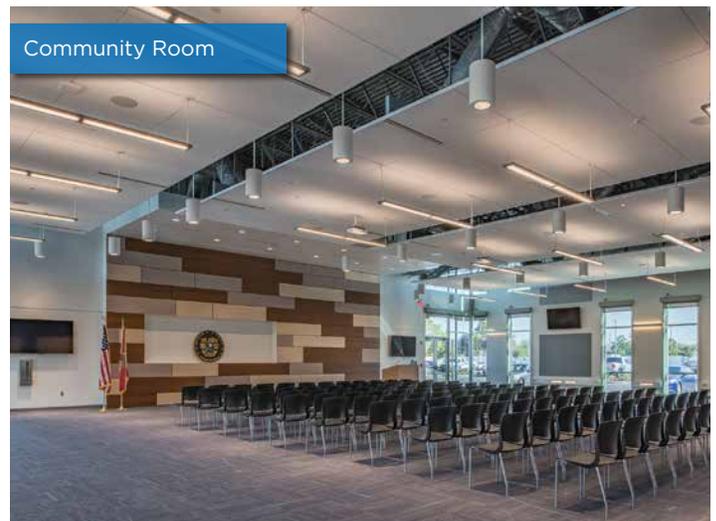
and crime lab. There were other compromises made as a result of the strict budget. For example, once the design was underway, it was determined that the site's stormwater management systems would outfall to an already compromised water basin dictating that the on-site stormwater ponds had to be significantly increased in size to address water quality prior to the stormwater out falling off of the property, reducing the usable surface area for the building footprint and required parking for the staff.

Architect of Record: Architects Design Group, Winter Park, FL & Dallas, TX

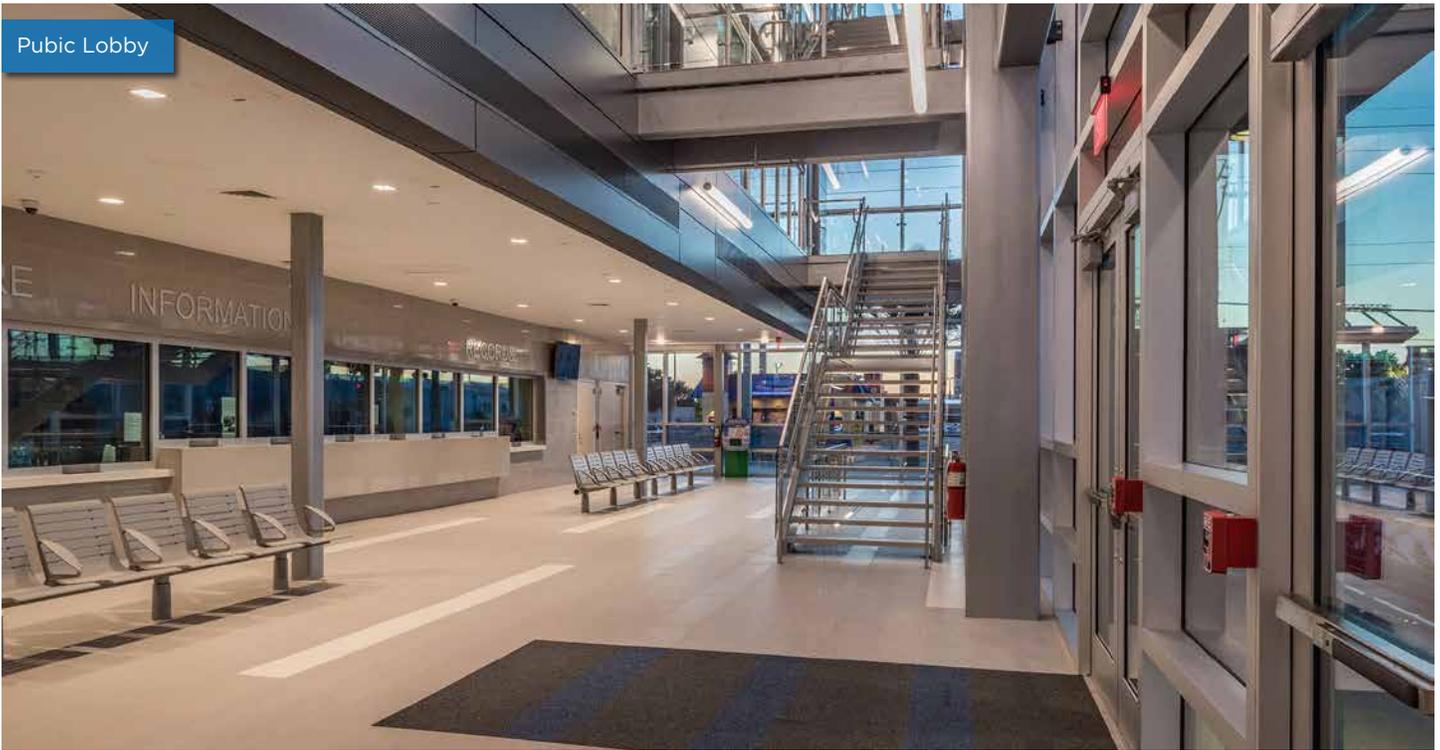
Design-Build Contractor (DBC): H. J. High Construction Company, Orlando, FL



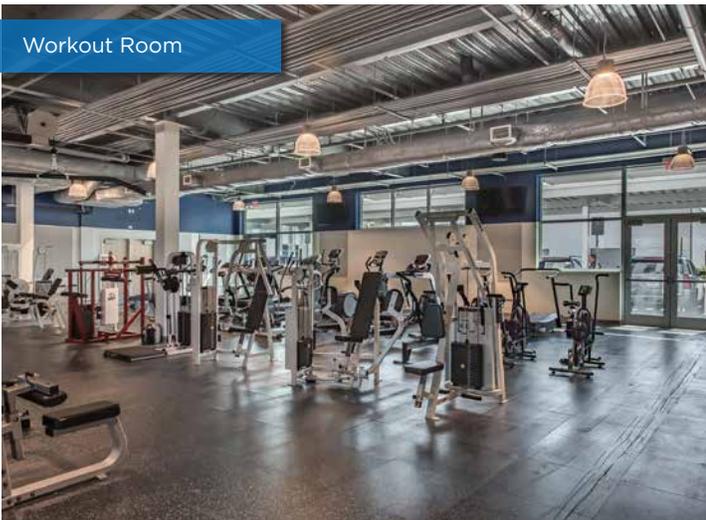
Exterior - Headquarters



Pubic Lobby



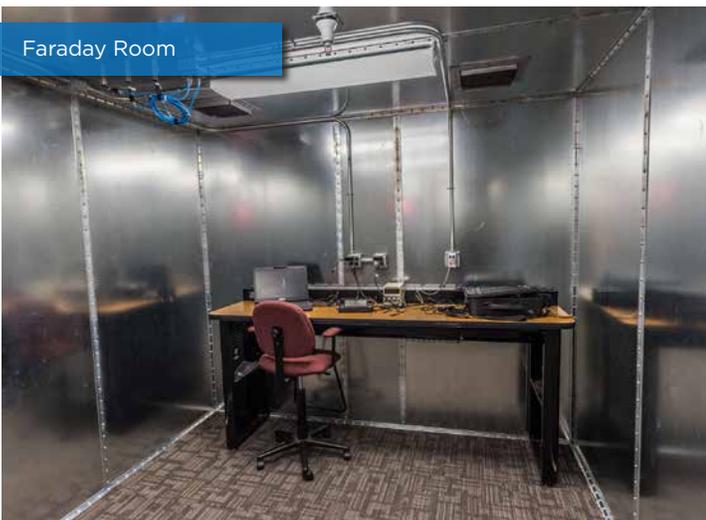
Workout Room



Workspace



Faraday Room



Crime Lab



Grand Prairie Public Safety Headquarters

Grand Prairie Public Safety Headquarters

Located: Grand Prairie, Texas

Total Square Footage: 149,729 square feet (sq ft)

Total Cost: \$45,800,000

History of Project

An aging and inefficient police building left the leaders of Grand Prairie looking for answers as to how they could improve the public safety services for their citizens. The city hired Brinkley Sargent Wiginton (BSW) Architects to determine the city's public safety needs, assess the existing public safety facilities, and provide options to expand services for this forward-thinking city.

Based on the study results, the city decided the citizens and public safety professionals required a new facility to meet their community and public safety needs. BSW suggested the city consider master planning a 180-acre location the city-owned, which was considered a throw-away site, to include the public

safety facility, an active adult center, and a public park. The master plan was created to include mix-use development, with retail, hotel, and apartment units; and a recreation center and separate indoor waterpark.

The city accepted that suggestion and BSW produced plans for Central Lake Park, which incorporates several park elements, including 35-acres of flood control lakes, along with the new public safety facility and other amenities and buildings.

Main Objectives of the Facility

- Develop a gateway to the city from the new highway system.
- Build the most progressive public safety facility in the state.
- Create substantial municipal detention with minimum staff.
- Encourage public use and activity at the facility.
- Utilize linear design to meet LEED criteria.
- Maximize views of new lakes and waterfalls.

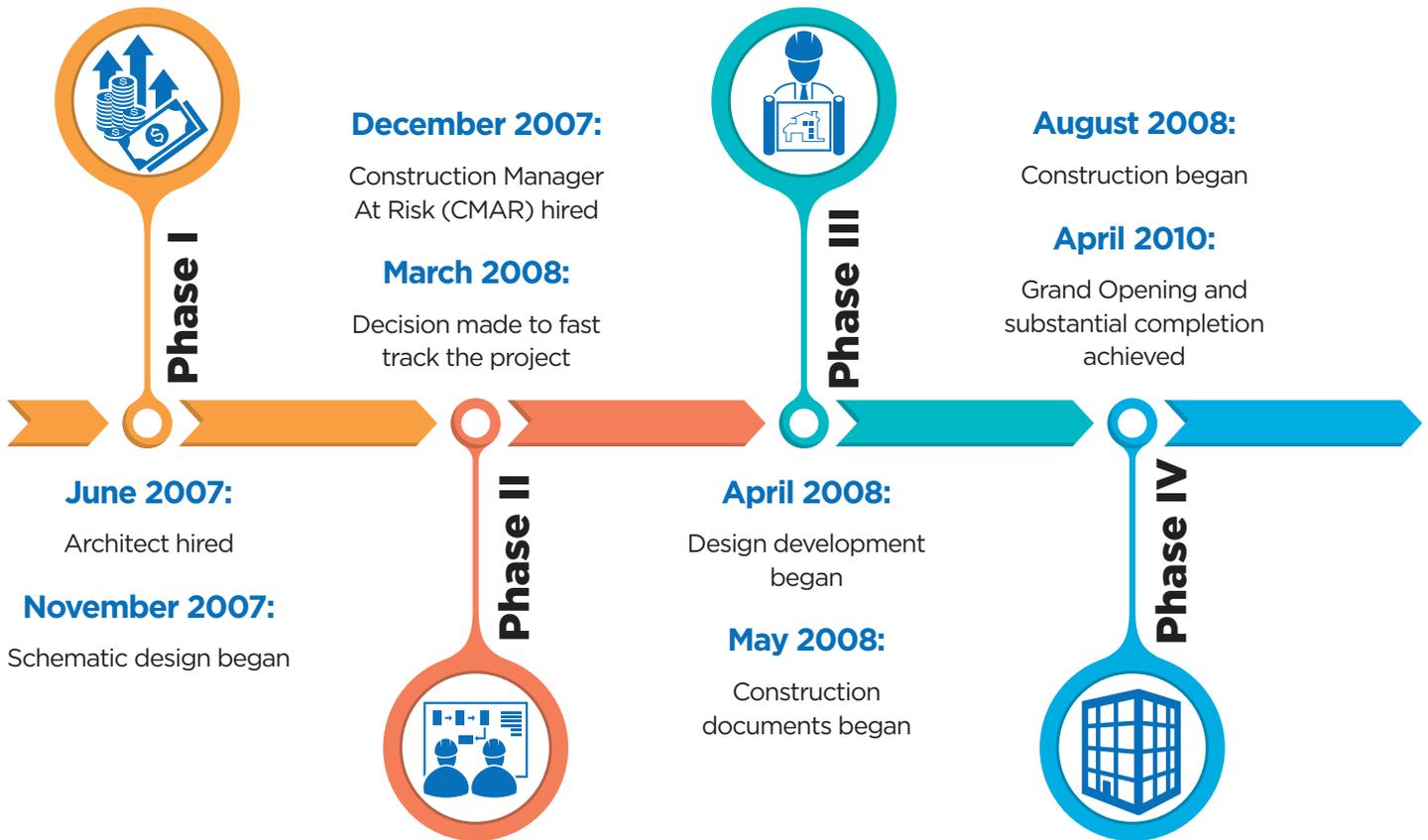
Master Plan



Timetable

BSW was contracted to provide design services for the project in June 2007 and the pre-design planning was completed in August 2007. Schematic design was then completed in November 2007 and Manhattan Construction was hired as the construction manager at risk in December 2007. The decision

was made to pursue a fast track in March 2008 and design development was completed in April 2008. Construction documents began in May 2008 based on packages established by Manhattan Construction, and construction began in August 2008. The project received substantial completion in April 2010.



PROJECT COSTS

Construction Budget \$45,200,000 (All dollar amounts reflect costs as per 2008 pre-recession prices.)

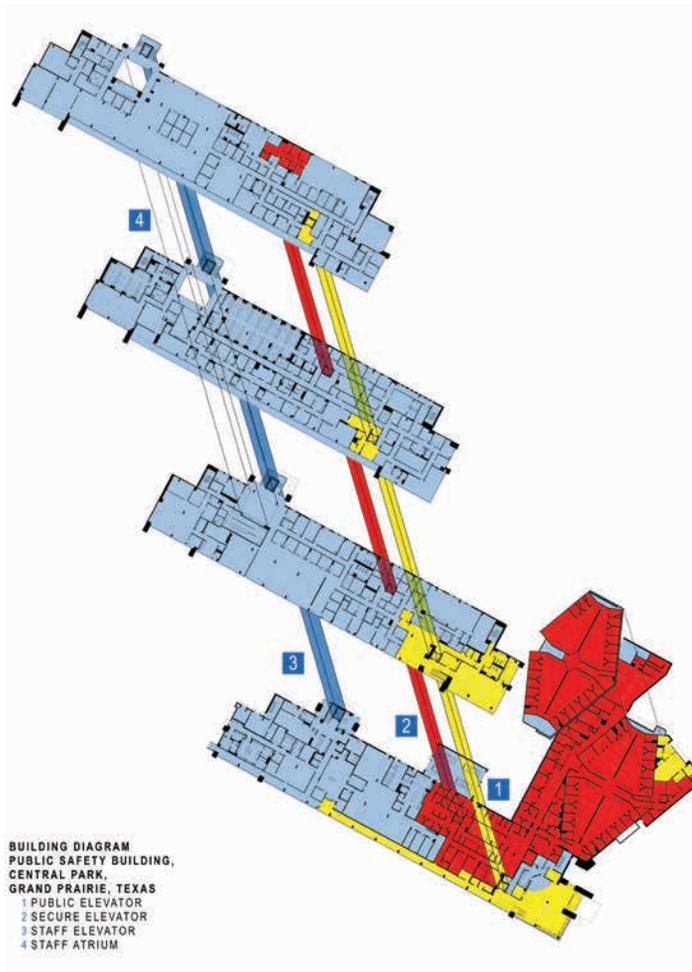
	Area	Cost	Cost per sf
Police Building	109,219 sq ft	\$27,414,000	\$251/sq ft
Jail	30,110 sq ft	\$8,973,000	\$298/sq ft
Support	10,400 sq ft	\$1,862,000	\$179/sq ft
Site	10.4 acres	\$6,951,000	\$668,400/Acre
CMR Fee		\$1,554,000	
Design Contingency		\$1,600,000	
Subtotal: Construction Budget		\$48,354,000	
Soft Costs		\$6,001,000	
TOTAL PROJECT BUDGET		\$54,454,000	
FINAL CONSTRUCTION COST		\$48,091,000	

End Result

The City of Grand Prairie received the progressive public safety facility they desired. The public safety building is a city gateway visible from the highway—designed to separate public, staff, and secured spaces, yet make access to all areas easy and convenient for staff and visitors.

The facility includes the following:

- Easy public access to the Records Department and a second-floor community room
- Lobby-level control of public access to
 - Property & Evidence (second floor)
 - Fire & Police Administration suites (third floor)
 - Criminal Investigations & Victim Assistance (fourth floor)



- Separate public access to the detention wing
- Secured staff parking with separate entrance
- Staff parking garage access to vehicular evidence, motorcycles, tactical vehicles, and so forth

- Secured staff access to first floor departments, including
 - Quartermaster
 - Crime Scene / Property & Evidence
 - Detention area
- Secured staff access to second floor departments, including
 - Patrol
 - Report writing
 - Common atrium
- Secured staff access to third floor departments, including
 - Support areas
 - Locker room
 - Exercise room
 - Break room
- Secured staff access to fourth floor departments, including
 - Criminal Investigations
 - Victim Assistance

The city promotes the public safety facility as a safe space for people to hold formal meetings as well as a monitored exchange location to complete online sales transactions. The city actively engages citizens and public safety personnel to build trust and respect between them.

The city now has an active adult center, a recreation center, an indoor water park, an esplanade for cars and people, a park, public artwork, and multiple water features.

Lessons Learned

The advantages of working with a quality construction manager at risk (CMR) cannot be overemphasized. The CMR works with the design team and assists in scheduling, budgeting, and value engineering during the design effort. The CMR becomes a part of the working team, along with the building owner (e.g., the agency or the city), users, and architect. The entire team—owner, design team, and CMR—all worked together to resolve issues in a timely and cost-effective manner. For example, the CMR needed to move an enormous amount of dirt off site in order to create the designed 34 acres of water control ponds.

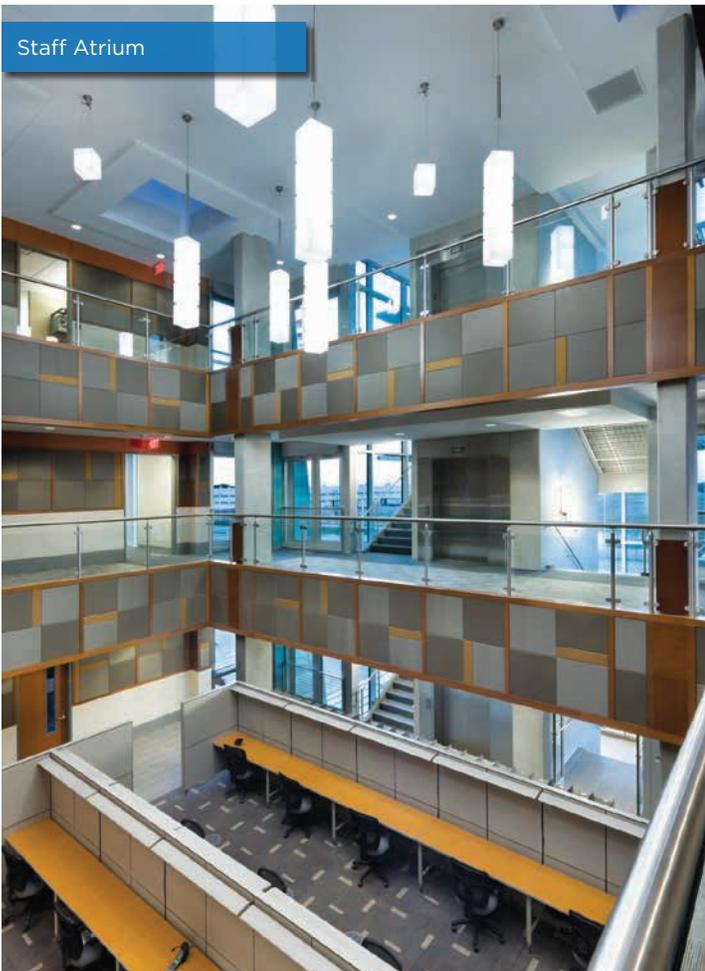
Rather than spending the money to haul it away, the CMR located an adjacent landowner that had a large portion of their site within the flood plain and worked cohesively with the landowner to use the earth movers on the project to move the dirt from the public safety site to the adjacent site, saving the city almost \$2,000,000.

Architect of Record: Brinkley Sargent Wiginton Architects, Inc., Dallas, Texas

Construction Manager (CMR): Manhattan Construction, Dallas, Texas



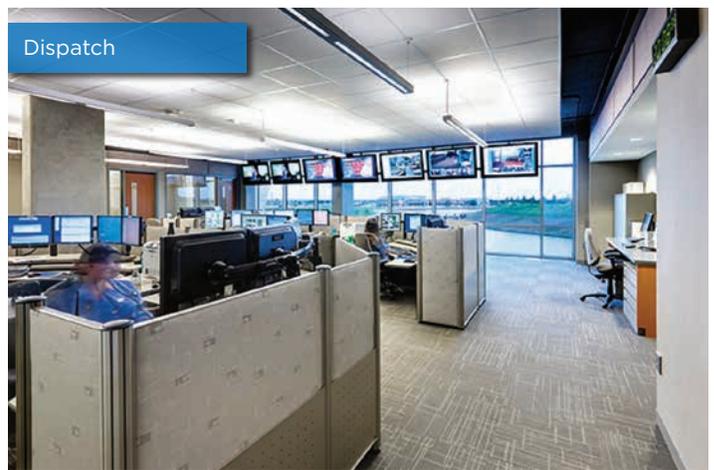
Public Safety Facility



Staff Atrium

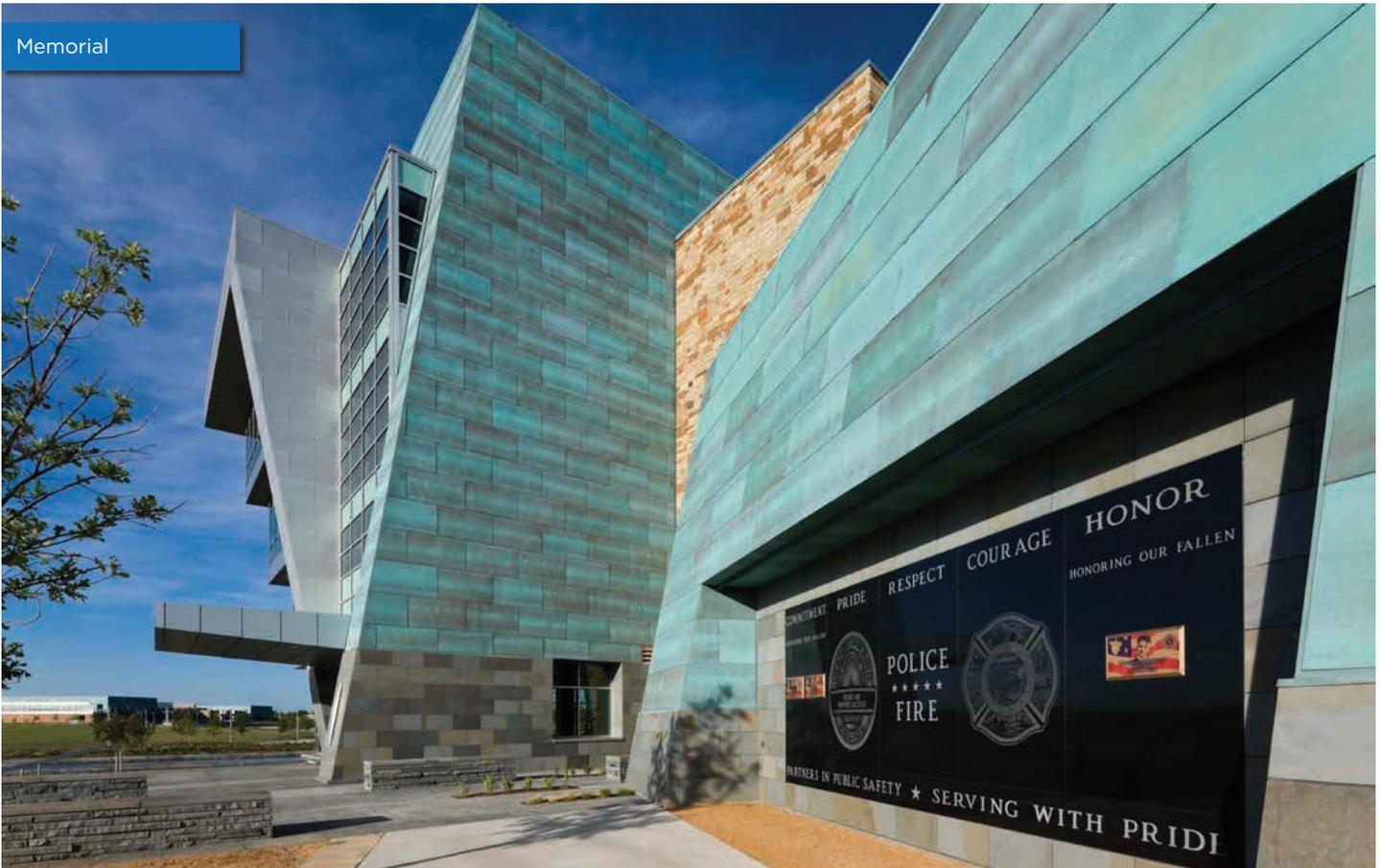


Lab



Dispatch

Memorial



Training



