

MALETA EVOC

EMERGENCY VEHICLE OPERATIONS COURSE
SBC PROJECT NO. 529/017-01-2021



PROGRAM NARRATIVE
CM RFQ
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Engineering & Architectural Design Professionals

DESIGN TEAM

PICKERING FIRM, INC

Architecture

Structural

Mechanical

Electrical

Plumbing

PICKERING FIRM, INC

Track and Road Design

BARGE CIVIL ASSOCIATES, LLC

Civil Engineering

TIOGA ENVIRONMENTAL CONSULTANTS, INC.

Environmental (Wetlands Delineation and Remediation)

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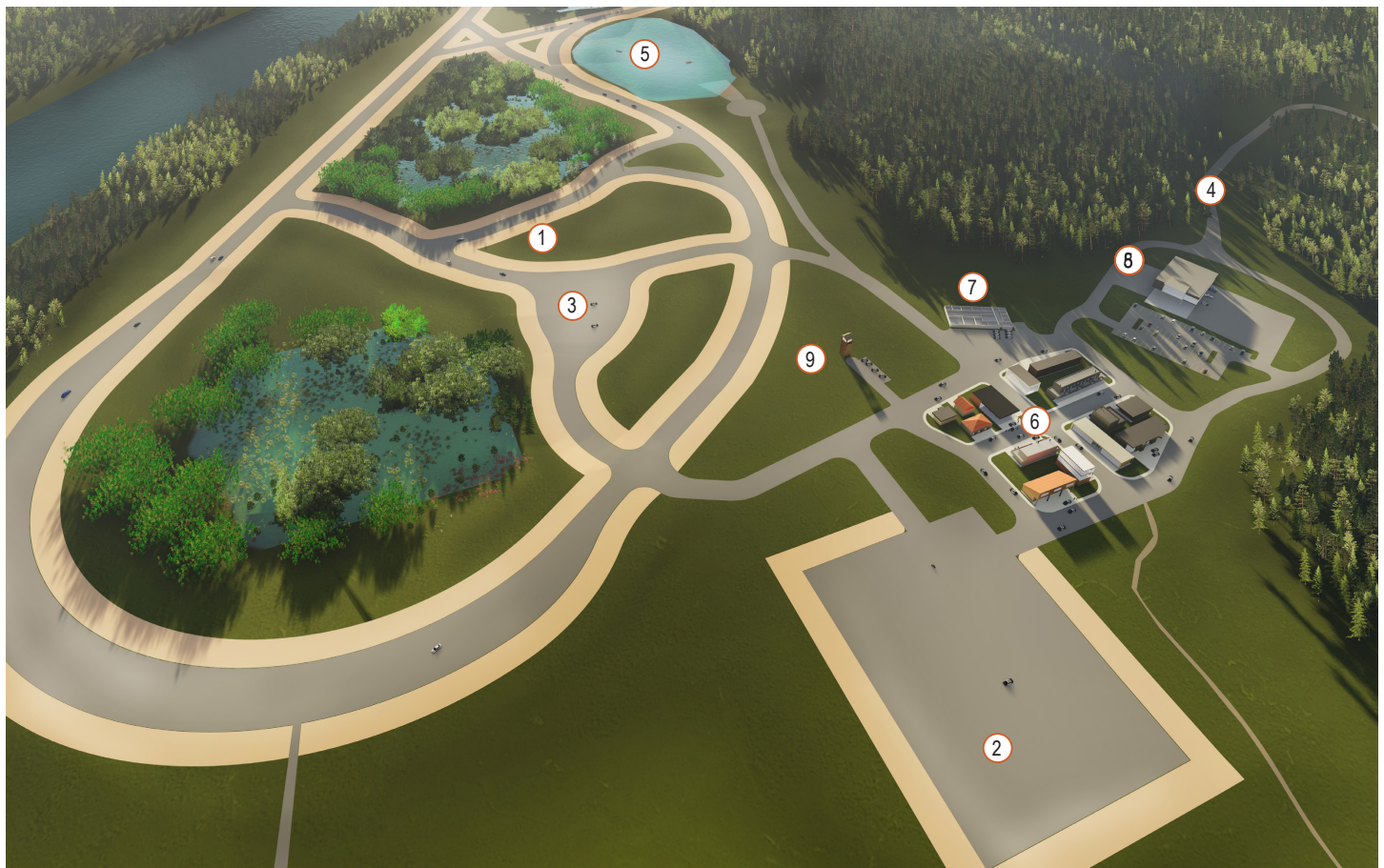
PROJECT OVERVIEW

SECTION 1

The Multi Agency Law Enforcement Training Academy (MALETA) is the consolidation of various existing state law enforcement training sites into a single campus with new, state-of-the-art facilities. MALETA is located on the State of Tennessee-owned Cockrill Bend site west of Nashville, bordered by: the John C. Tune Airport to the east; the Cumberland River to the north; and Riverbend Maximum Security Institution and DeBerry Special Needs Facility to the west.

The campus consists of various facilities, each of which are designed by separate architects and built by separate construction teams. In order to benefit the State of Tennessee and obtain a cohesive design and coordinated construction effort, the teams are expected to work with one another.

The focus of this narrative is the Emergency Vehicle Obstacle Course (EVOC) portion of the project. A majority of the work on the EVOC is civil and road work; however, multiple small building structures are part of the project. The following graphic summarizes the main project elements.

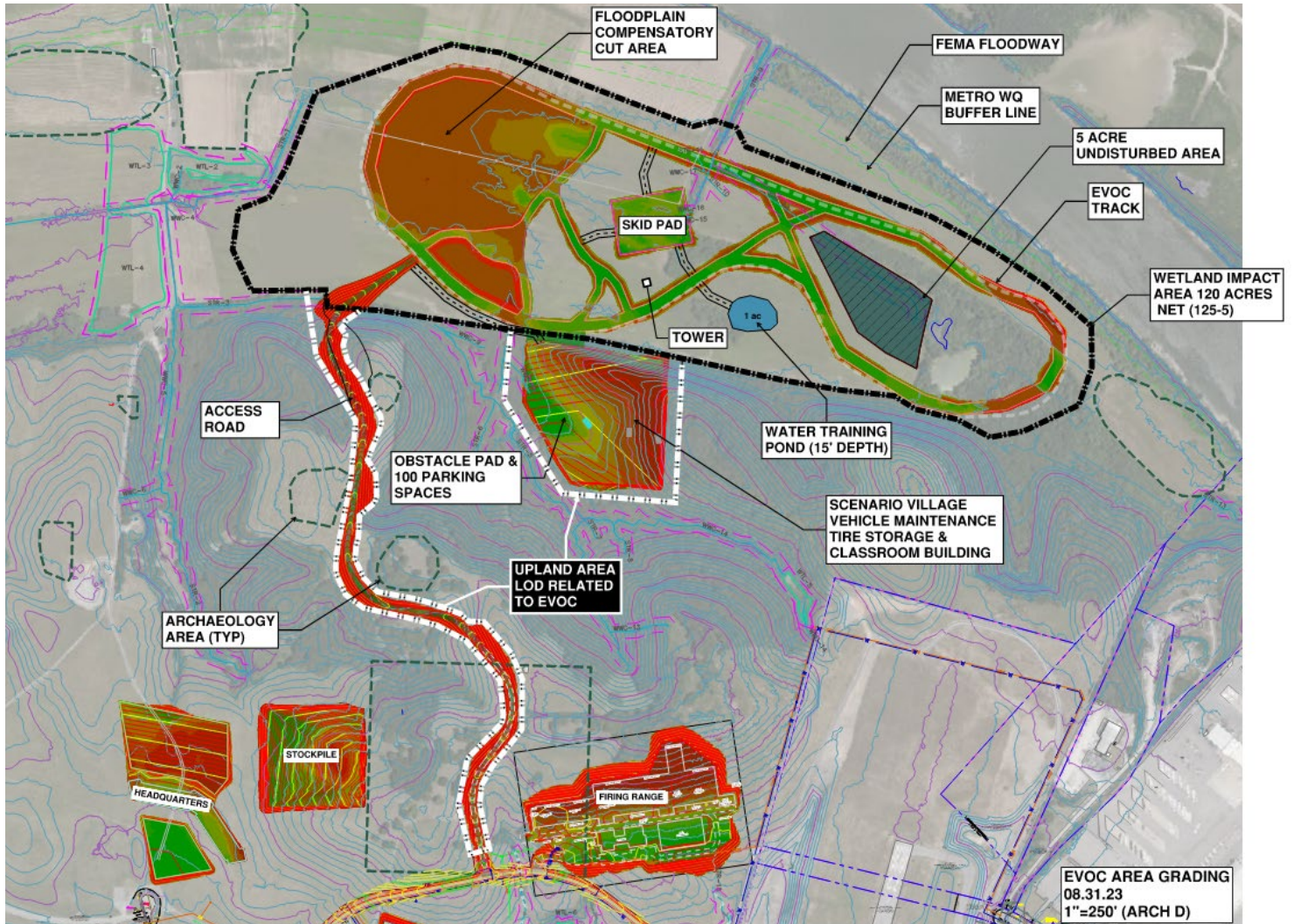


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|--------------------|----------------|---------------------|---------------------------|-------------------------------|--------------------------------|
| 1. EVOC track | 3. Skid Pad | 5. Training Pond | 7. Simulation Shoot House | 8. Vehicle Maintenance Garage | 9. Observation/Repelling Tower |
| 2. Obstacle Course | 4. Access Road | 6. Scenario Village | | | |

CIVIL

SECTION 2

As currently envisioned, the EVOC site is situated in the northerly part of the overall site adjacent to the Cumberland River. A portion of the site is located in the special flood hazard area (100 year floodplain) and also within a mosaic jurisdictional wetland. The Scenario Village is located to the south of the track area and outside both the floodplain and wetland areas. The final major component is the Access Road that will link the entire program area to the main Loop Road and campus.

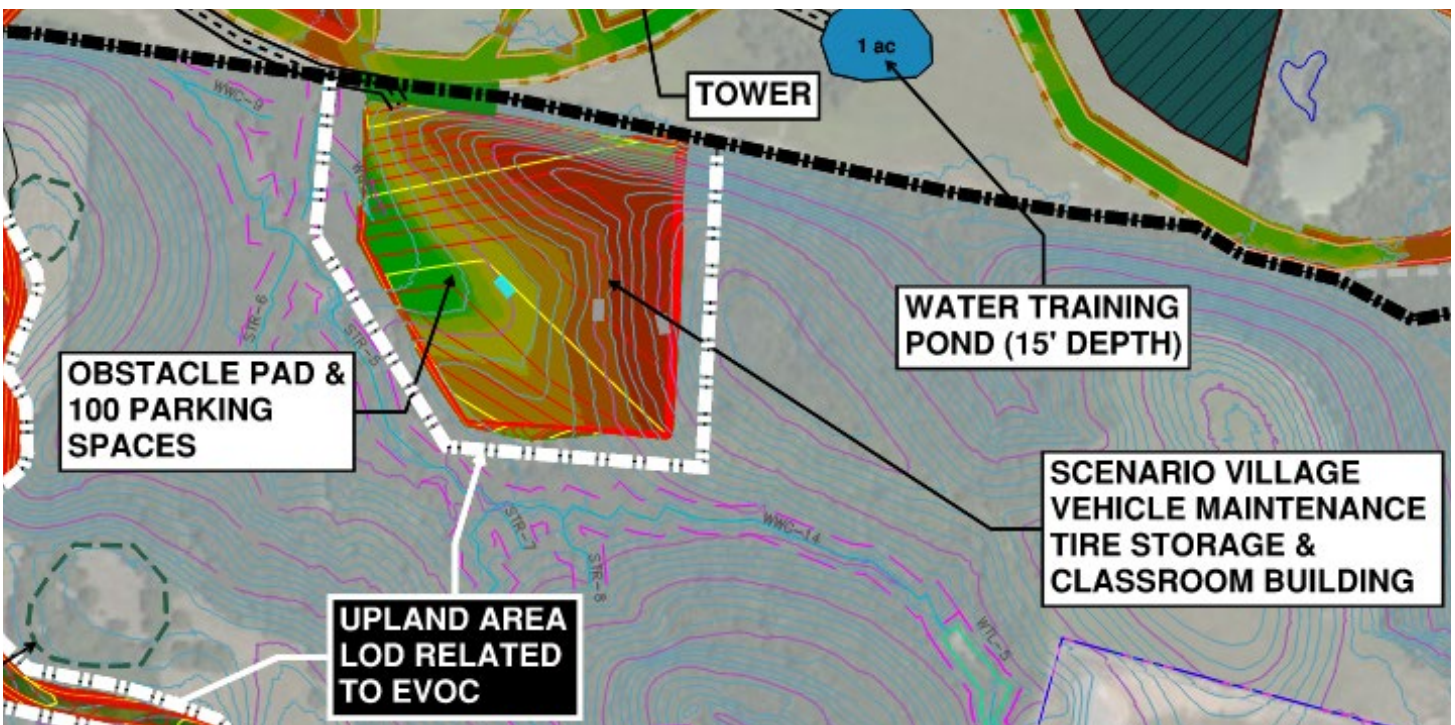


The overall site for this facility is anticipated to encompass approximately 150 acres not including the Access Road corridor. This includes several elements including the EVOC Track, skid pad, observation tower, training pond, obstacle pad, parking lot, vehicle maintenance building, classrooms and the Scenario Village structures as well as an Access Road to the site.

The minimum track pavement elevation is planned to be elevation 405, which is slightly above the 10-year-flood elevation. In order to maintain compliance with the local floodplain ordinance, the fill material required to raise the track to this elevation will be excavated within the floodplain area as compensatory cut. Any structures within this area will be elevated above elevation 410 in order to meet the minimum elevation standards.

The Scenario Village area requires significant earthwork especially in the form of excavation, including rock excavations potentially exceeding 50 feet in depth. This strategy is based on three considerations:

1. Relocating as much of the facility outside of the wetland area and above the floodplain
2. Intentionally grading the area with the intention of “mining” the rock that will be needed both raise the track to the correct grade and also to provide the refill material under the track following undercutting of low strength soils
3. As more geotechnical and design information becomes available, these relationships will be refined and magnitudes will be reduced to the extent possible.



Based on current conditions, the track and the Scenario Village area are only accessible by farm equipment or other off road vehicles. The current plan is to extend a new access road, approximately 4,300 feet in length, from the Loop Road to the site.

UTILITIES

WATER

The Infrastructure Package project includes a new public water main along the route of the main Loop Road. Therefore, the connection point for this project will be near the Loop Road or near the northwest corner of John C. Tune Airport. Since this will be a private line, it will consist of a new tap for the Fire Line, one for Domestic, and one for Irrigation water, if required.

SANITARY SEWER

The Infrastructure Package also provides gravity sanitary sewer service to a point near the Loop Road/Access Road intersection. Given the elevations, all sanitary sewer from the new facilities will be pumped to the service point described. Ideally this will be in the form of a single, privately-owned sewage lift station and force main towards the south to the service point.

ELECTRIC

The Infrastructure Package includes new, underground, primary electrical at the Loop Road similar to water as previously described. Service details including routing, transformer locations, etc. will be determined by the electrical engineer in conjunction with Nashville Electric Service.

GAS & COMMUNICATIONS

The Infrastructure Package also includes natural gas and communication infrastructure along the Loop Road alignment. The details of these services are not available as of the date of this report.

EVOC TRACK

SECTION 3

The main objective of the track is to train law enforcement officers in pursuit driving and skid control. The curriculum focuses on decisionmaking, hazard mitigation, and tactical driving skills that help law enforcement officers navigate real world situations and respond to emergency scenarios in a safe and efficient manner. The track consists of two main elements: a 1.75-mile, high-speed driving track and approximately 1 mile of simulated urban roads. A portion of the track is in the area near the river; however, some of the track may be included in the uplands to minimize any required wetlands mediation.

Excavation for the track in the area near the river will most likely include unsuitable material that will require select material as back fill for the subbase of the road. Excavation in the uplands area will include unclassified excavation and rock excavation. Excess materials will be wasted on site at a location to be determined by the owner. Stockpiled materials may also be available for borrow excavation from ongoing adjacent projects.



The 1.75-mile high-speed track includes the following elements:

- Built to TDOT standards and specifications
- ½-mile straight away
- Pit-in/pit-out lane
- ‘S’ curve
- Blind curve
- Increasing radius curve
- Decreasing radius curve
- Constant radius curve
- Wet down area on track with water pumped from the Training Pond
- Lane width varies from 24’ to 36’ wide.

- Rumble strips at the edges of the travel lanes
- Wide shoulders, gravel trap, sand trap and barrier walls at perimeter in select areas

The 1-mile simulated urban road course includes the following elements:

- Multiple intersections
- Intersection(s) with 4-way stop traffic control
- Intersection(s) with 2-way stop traffic control
- Intersection(s) with signalized traffic control
- Constructed to City of Nashville standards
- Roads to have curb and gutter

OBSTACLE COURSE/PAD

SECTION 4

The obstacle course is a 300'x 600' asphalt pad used to instruct precision driving. The techniques taught on this course include: evasive maneuvering, slalom, curves, corners, backing and braking techniques, and vehicle dynamics. The area requires the pad to be relatively flat and is in the area near the river. The obstacle course/pad also doubles as the motorcycle training area for civilian licenses.

SKID PAD

SECTION 5

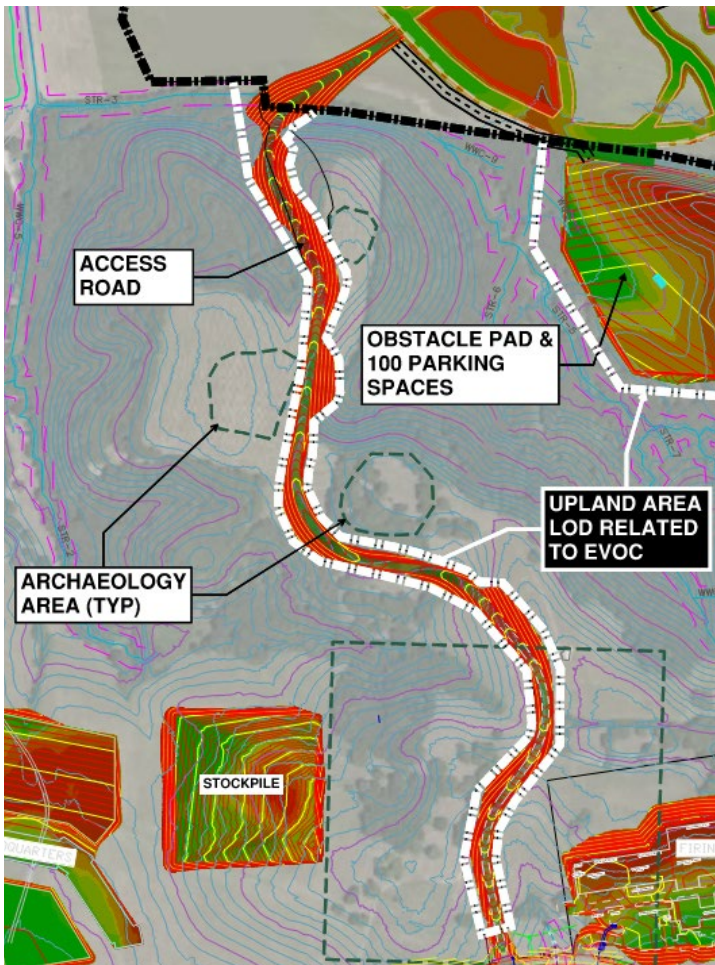
The skid pad is an 80,000-square-foot concrete pad directly off the EVOC track. The intent of the skid pad is to train officers to control fishtailing and hard breaking. Sprinklers fed from the training pond provide capability of wetting down the pad for wet weather simulation. To enhance the skid experience, the surface is treated to reduce traction. The officers will be trained to develop the skills to correct and overcome a controlled skid.



*Skid Pad at Olive Security Training Facility
Crawfordville, AR*

ACCESS ROAD

SECTION 6



The access road is an approximately ¾-mile, two-lane rural road that will connect the EVOC track to the rest of the MALETA campus. The access road navigates through the upland area and various archaeological sites to the area near the river. The access road will be constructed to TDOT standards and specifications.

TRAINING POND

SECTION 7

A one-acre pond near the EVOC track is designed to teach law enforcement officers to respond to a submerged vehicle and bodies in the water. Officers will be trained to properly enter the body of water and provide assistance. The goal of the training shifts the focus to rescue instead of recovery. The training pond is located at the transition from wetland to the uplands to provide varied topography to teach different entry methods depending on the terrain.

SCENARIO VILLAGE

SECTION 8

The Scenario Village is a simulated urban area for tactical training that features classrooms and ten structures to provide real-world scenarios. The Scenario Village plays a critical role in developing the skills of the law enforcement officers. The props and buildings contained in the Scenario Village give trainees the opportunity to react to multiple situations that officers will encounter on the job. The Scenario Village is used to teach approach, entry, search, clearance, tactical assault, raid concepts, and pedestrian operations. Role playing will be used to enhance the realistic nature of the training. Some of the intended role plays are active shooter, counter sniper, officer survival, high-risk arrest warrant, and SWAT team training with flexibility to meet the instructors needs. The training area will have state-of-the-art cameras to allow instructors to provide constructive critiques of the team's performance. The village includes a simulated gas station/convenience store, bank, small school, two story office building, small warehouse, two-story residence, and three single-story residences with fencing at the perimeter. The Scenario Village has an asphalt paved parking area for 200 vehicles. Some of the features of the structures are as follows:

Gas Station/Convenience Store

- 2,400 sq. ft. (40'x60')
- Cold shell with lights
- Aluminum storefront at the front structure
- Construction Type V
- Provide prefab canopy over the gas pumps
- Active gas pumps to fuel training vehicles

Bank

- 2,000 sq. ft. (40'x50')
- Cold shell with lights
- Aluminum storefront at the front structure.
- Construction Type V
- Canopy over simulated ATM machines

Small School

- 10,000 sq. ft. (50'x 100')
- 2,500 sq. ft to be heated/cooled with classrooms, restrooms, and an office
- 7,500 sq. ft. cold shell with lights
- Multiple windows.
- Construction Type V
- Use fence to form a courtyard/playground

Two-Story Office Building

- 10,000 sq. ft. (50'x100')
- Cold shell with lights
- Windows at exterior
- Construction Type V
- Three sets of stairs

Two-Story Hotel

- 10,000 sq. ft. (50'x100')
- Cold shell with lights
- Windows at exterior
- Construction Type V
- Two sets of stairs
- Balcony at front

Small Warehouse

- 12,000 sq. ft. (80'x150')
- PEMP building
- Heated shell with lights
- Multiple docks/doors
- Dock height floor
- Construction Type IIB
- Drive in door
- Facility doubles as storage area for EVOG training items

continued on next page

Two-Story Residence

- 3,000 sq. ft. (30'x50')
- Cold shell with lights
- Windows at exterior
- Construction Type V
- Single set of stairs

Single-Story Residences (3)

- 1,440 sq. ft. (24'x60')
- Cold shell with lights
- Windows at exterior
- Construction Type V
- Fencing at perimeter of property

Roads and Intersections

- 24' wide, two-lane roads connecting structures, approximate 2,500 feet in length
- Half of the roads to reflect urban typical section with curb and gutter
- Half of the roads to reflect rural typical section with shoulders and ditches

Parking Lot (to serve training facility)

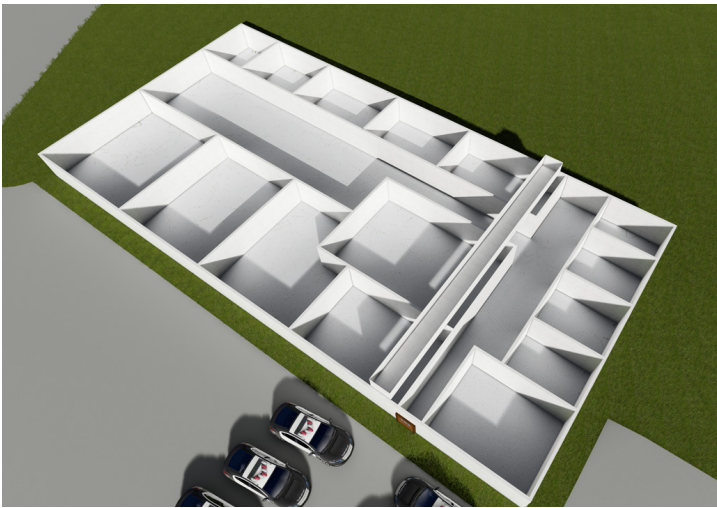
- 200 parking spaces
- Approximate size 120' x 200'



EVOC Rendering

SIMULATION SHOOT HOUSE

SECTION 9



EVOC Rendering



Shoot House at Olive Security Training Facility
Crawfordville, AR



Shoot House at Olive Security Training Facility, Crawfordville, AR



Shoot House at Olive Security Training Facility, Crawfordville, AR

It is not sufficient to teach law enforcement officers to shoot, it is necessary to teach tactics. Shoot houses provide one of the instructional tools to prepare officers for the threats they encounter on duty. The shoot house allows instructors to teach how to enter and clear rooms, as well as team tactics. The shoot house at the MALETA facility will use simunitions and paint pellet munitions to simulate live-fire training in realistic scenarios. The interior walls will be reconfigurable to adjust the training exercise.

Shoot House Elements include:

- 20,000 sq. ft under roof (100'x200')
- Type V construction
- Exterior wall installed permanently
- Reconfigurable SIP (Structural Insulated Panels) for interior walls
- Catwalks for instructor to view
- Cold shell with lights

VEHICLE MAINTENANCE GARAGE

SECTION 10

On site is a 5-bay vehicle maintenance facility to maintain the training vehicles. The cars take significant abuse during the training exercises and proper maintenance is necessary so they can be operated safely.

Vehicle Maintenance Garage Elements include:

- 5-bay garage
- 10 sectional doors (2 per bay)
- Heated and ventilated work bays
- Engine exhaust removal system
- Vehicle lift in 1 bay
- Compressed air system
- Building approximately 4,000 sq. ft.
- Type IIB construction
- 120 sq. ft. Office (heated/air conditioned)
- 200 sq. ft. Breakroom (heated and cooled)
- (2) single hole restrooms
- 1,000 sq. ft. tool and heavy parts storage
- 1,500 sq. ft. part mezzanine
- 375 sq. ft. covered exterior storage for tires
- Asphalt parking for 20 training vehicles (100'x 60')



OBSERVATION/REPELLING TOWER

SECTION 11



EVOC Rendering

The observation/repelling tower is a 60-foot tower used to observe the EVOC track and the Scenario Village. The tower is to be constructed of galvanized structural steel with a single stair. One side of the tower is to be covered in pressure treated plywood to practice repelling. It is possible to use a prefabricated tower from Porta-King or similar.

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