DRAFT
Elevation to be revised.

16 Apr 2026

Schematic Design

Town of Nolensville **Police Headquarters**

CSDG ENVISION ADVANTAGE EXCELLENCE IN ENGINEERING EMC STRUCTURAL ENGINEERS, P.C. architect WORKSHOP

Contents

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Town of Nolensville Police Headquarters

Acknowledgements

To Mayor Gallik and the Board of Commissioners

We are pleased to provide you these documents describing the concept and schematic-level design for the proposed Police Headquarters on Sunset Road in Nolensville.

Over the past 5 years, we have collaborated with the leadership of the town to define goals and direction for the new facility. Our design team would like to acknowledge the time and focus brought by the **Town's administration, codes, finance, planning, engineering, and police departments**. Each has been consistently positive and a benefit to the community.

The following pages illustrate the design of the architecture, structure, civil, landscape and engineering systems to construct the new facility.

The proposed facility was first strategized through a series of meetings to establish the types and number of work spaces required to **meet the Police Department's needs for the next 20-30 years**. With the direction of Chief Armour and his officers, we have proposed two buildings on the property.

The **main building will contain the critical operational functions** of Field Operations, Investigative Services, and Administration divisions. Additionally, the building accommodates public interaction with Records personnel, provides dedicated space for evidence processing and storage, and houses the equipment which responding officers will need at hand.

The **annex building supports less critical functions** in a secondary structure. It provides storage space for specialized vehicles, trailers, cones, bikes, etc. It also serves as a physical fitness and training hub as well as a short-term landing for the future K-9 unit.

Alongside the newly designed town park at Sunset Road, **the site presents a community-oriented opportunity**. As such, the building responds with a welcoming front porch as a complimentary gesture to the site's natural character. The public parking is integrated with the park's primary entry drive, allowing guests to approach the lobby via a pathway through native grasses and trees, also appropriate for the site. The staff park in a secured lot, landscaped and tucked behind the main building to minimize visual obstruction to the park.

It's been a pleasure working with your town, and we look forward to the continuing progress of the design and construction of the new police headquarters. Please feel free to contact us at any time.

April 2026

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Spaces & Concepts

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Schematic Design

Town of Nolensville Police Headquarters

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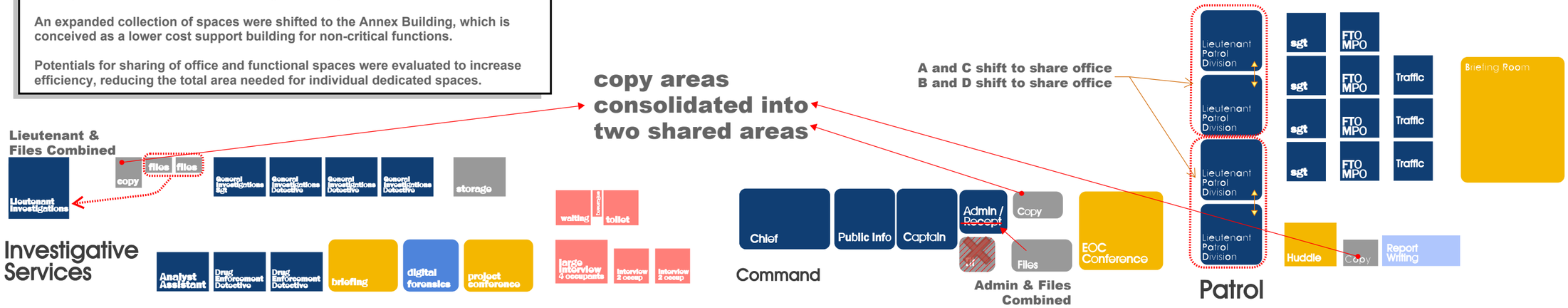
Program Summary Analysis

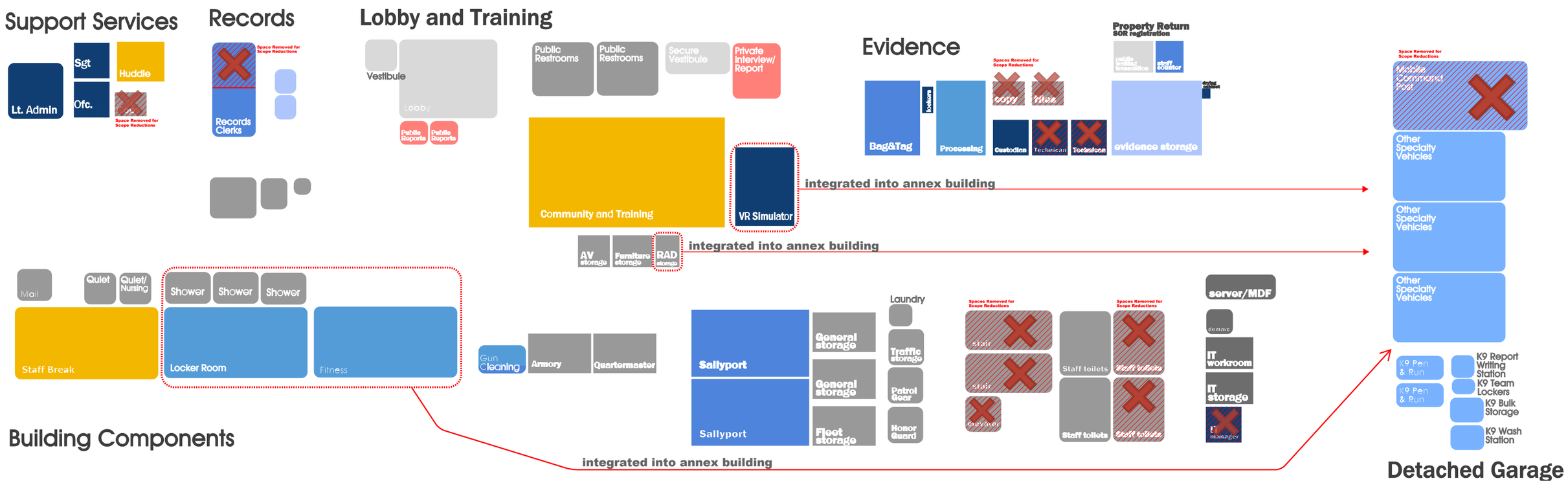
Following the initial Space Needs Assessment and prior to Schematic Design, an exercise was conducted to identify potential cost saving strategies.

The PD leadership consolidated roles and reduced staffing projections, resulting in fewer personnel accommodations being necessary.

An expanded collection of spaces were shifted to the Annex Building, which is conceived as a lower cost support building for non-critical functions.

Potentials for sharing of office and functional spaces were evaluated to increase efficiency, reducing the total area needed for individual dedicated spaces.





Program Summary

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Town of Nolensville Police Headquarters

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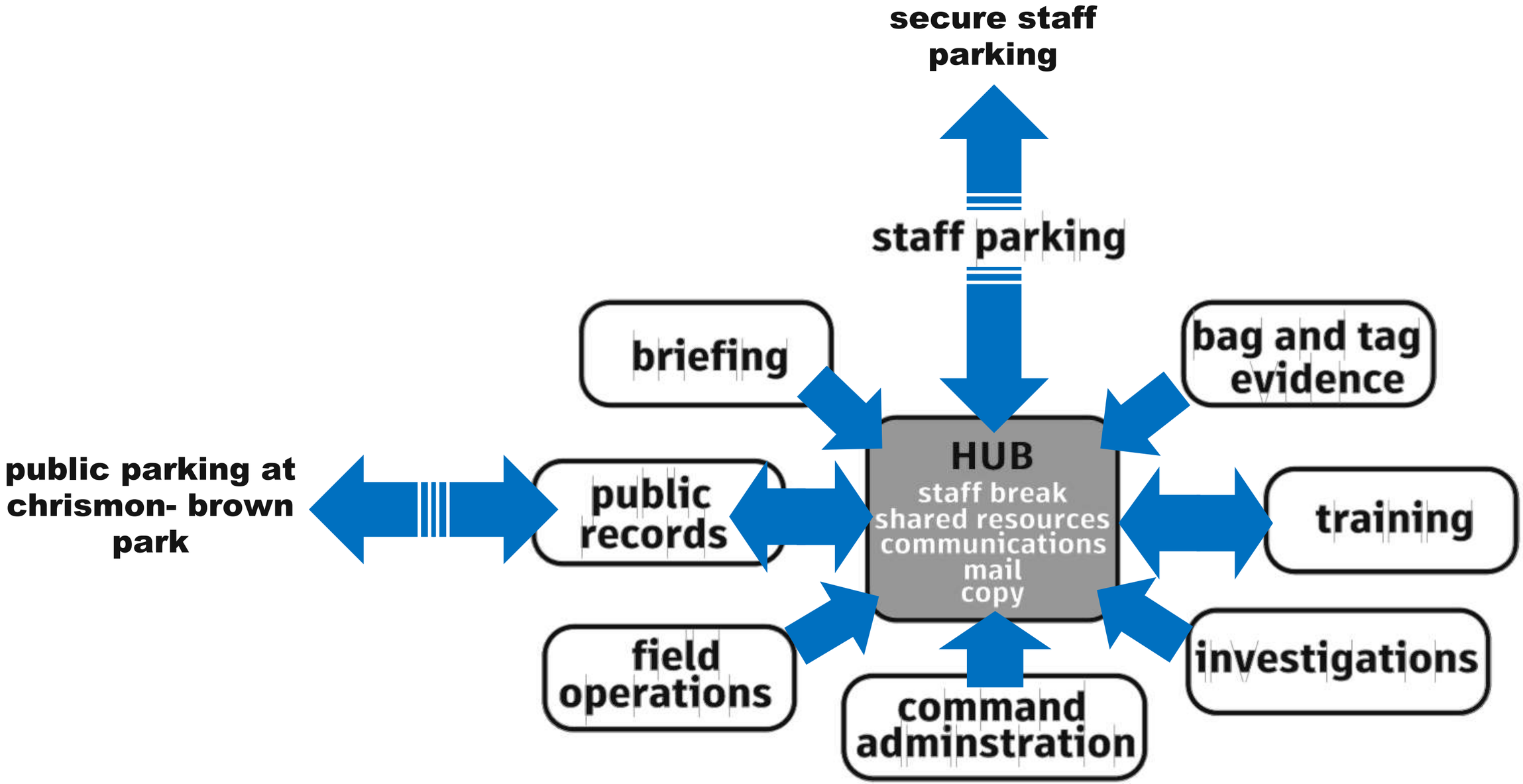

Building Organization Diagram

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Town of Nolensville **Police Headquarters**

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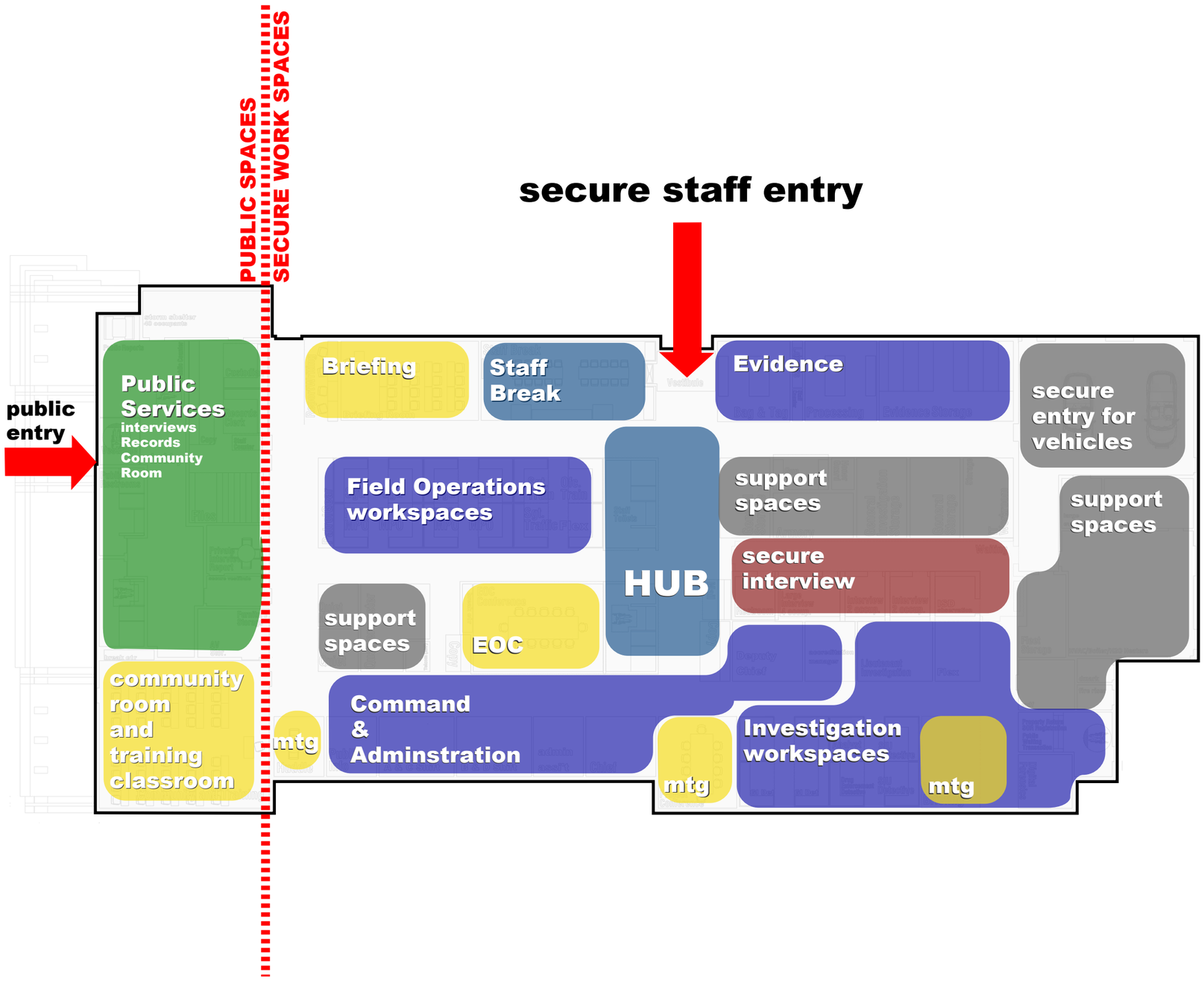

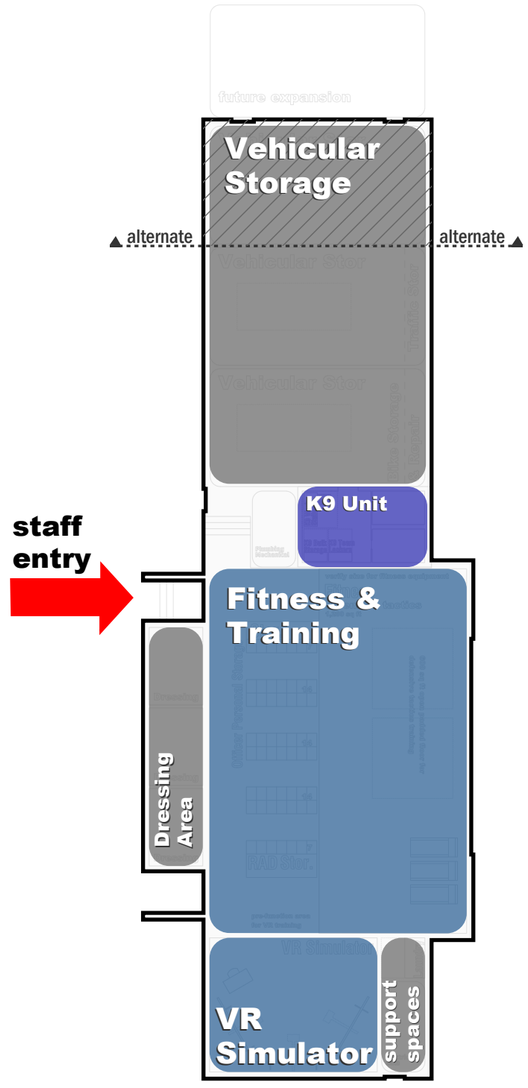

Building Organization Diagram

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Schematic Design

Town of Nolensville Police Headquarters

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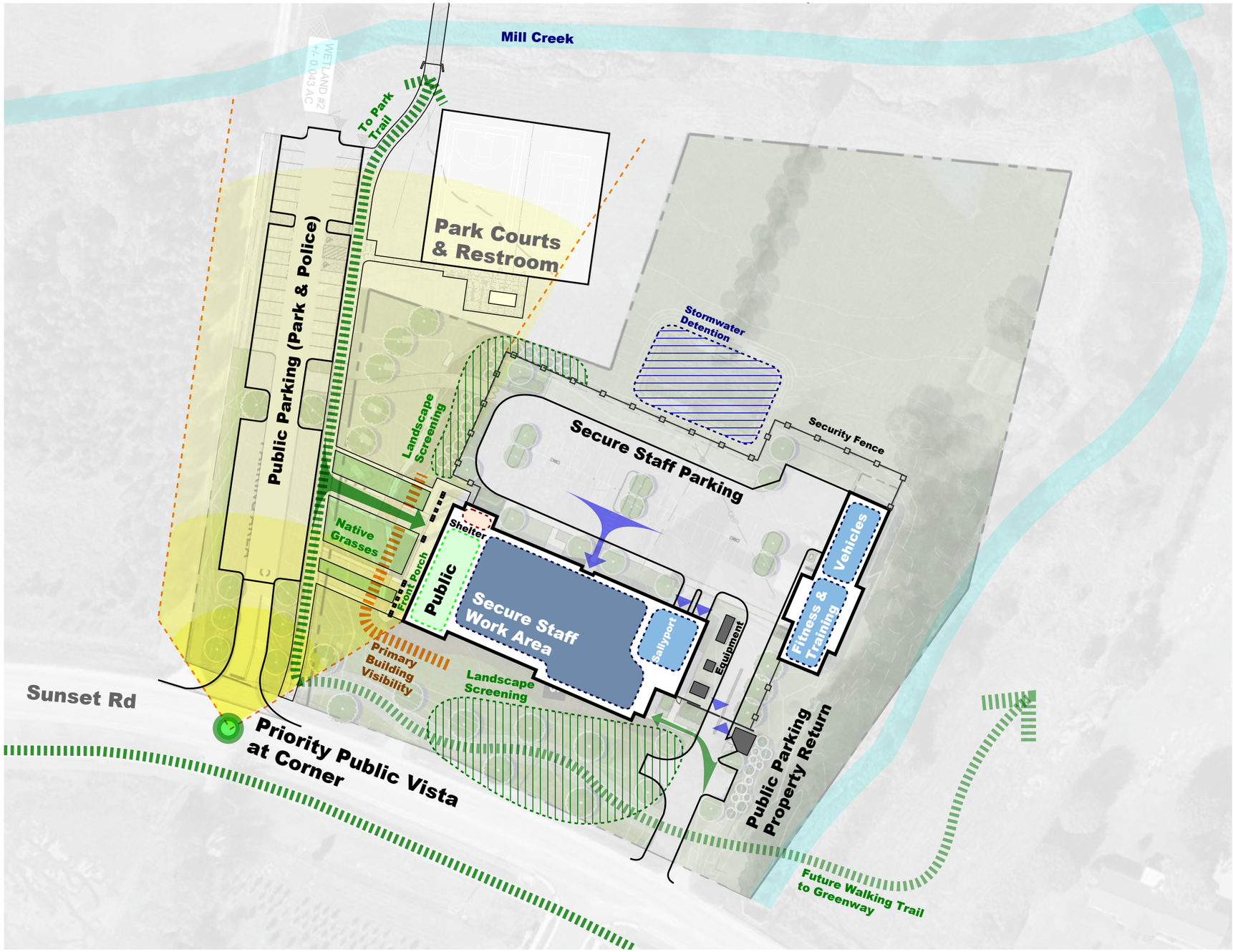

Site Layout Strategies

01 Recognize the importance of the neighborhood park within the site's composition.

Establish an open public zone west of the building's footprint to maintain clear visibility of the park from the entry on Sunset Road.

Arrange the building functions with public areas oriented toward the site's public zone.

Consolidate parking with the park's entry driveway to minimize paved areas. Create a welcoming entry sequence for public guests featuring native landscaping, a broad front porch, and other features consistent with the character of a valued natural environment.

02 Provide the facility's staff with a welcoming and safe working environment.

Orient the building for northern and southern exposure for optimal daylighting and visibility to outdoors.

Provide a secure and dedicated area for staff parking and entry to the building.

Install landscape buffering to limit visibility into staff areas and also improve the building's visual presence relative to smaller residential buildings nearby.

Move non-critical functions to a secondary annex structure in the least prominent location on site.

Site Organization

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Schematic Design

Town of Nolensville Police Headquarters

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Site Documents

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Schematic Design

Town of Nolensville **Police Headquarters**

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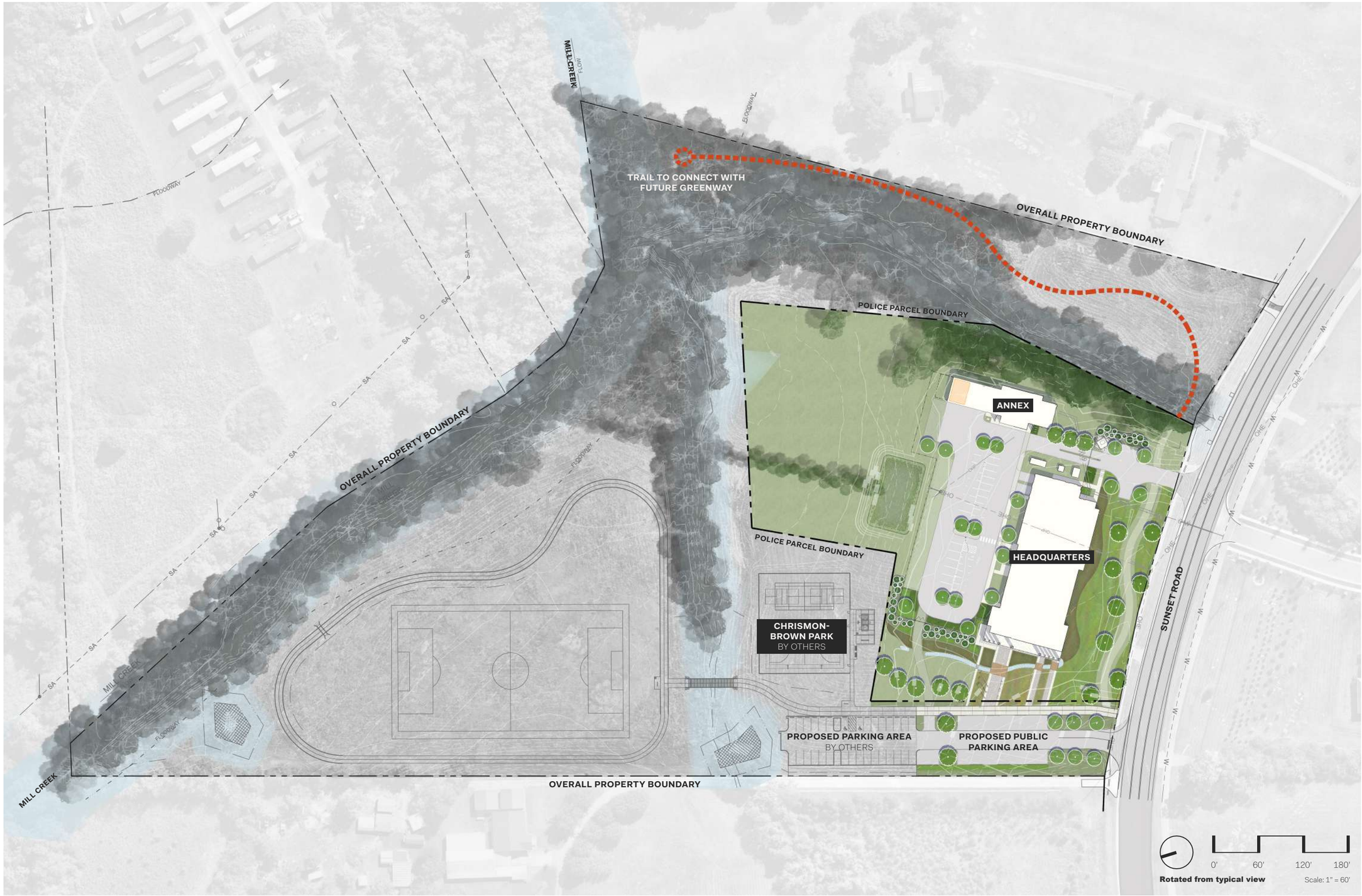

Overall Site Plan

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Schematic Design

Town of Nolensville **Police Headquarters**

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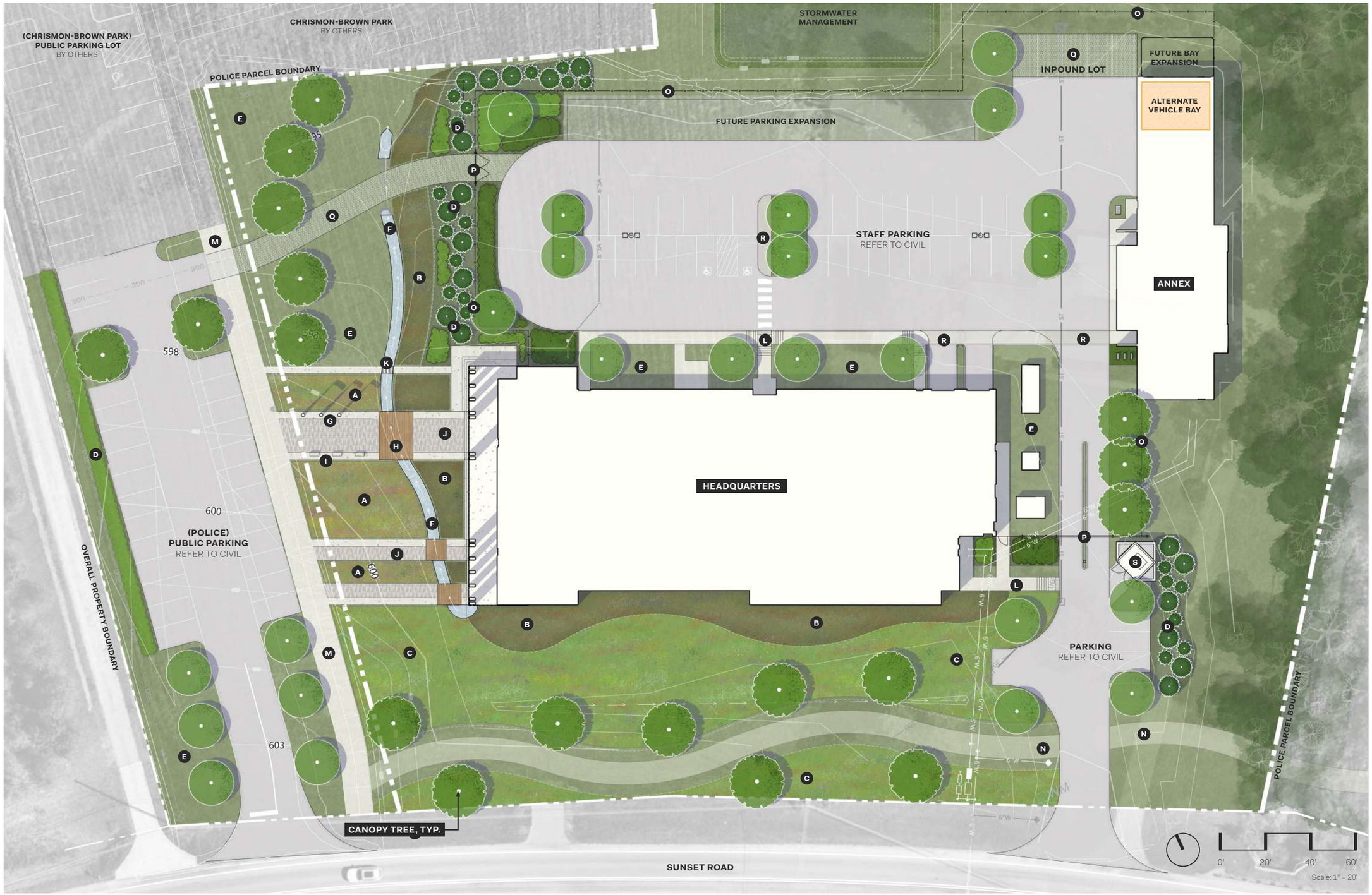

LEGEND

- **A** NATIVE PLANTING AREA
  Assume mixture of 1 gal. - 5 gal. native grasses and deciduous shrubs
- **B** NATIVE FOUNDATION PLANTING AREA
  Assume mixture of 3 gal. - 7 gal. ornamental grasses, evergreen and deciduous shrubs
- **C** LOW MAINTENANCE NATIVE SEED AREA
  Assume RoundStone Native Seed mix
- **D** LANDSCAPE SCREENING
  Assume mixture of 3 gal. - 7 gal. grasses., evergreen and deciduous shrubs
- **E** LAWN
  Assume Fescue sod
- **F** CREEK BED SWALE
  Assume 4" - 8" TN River Rock - Greys
- **G** FLAG POLES
- **H** BOARDWALK
  Assume flush with pavers, composite decking
- **I** NATURAL STONE BENCH
  Assume cut limestone block, 18" height x 27" wide
- **J** CONCRETE PAVERS
  Assume sand set on gravel base pedestrian plank pavers
- **K** CUSTOM CONCRETE STEPPING STONES
  Assume pour-in-place concrete, light broom finish
- **L** CONCRETE SIDEWALK
  Assume pedestrian rated, light broom finish
- **M** 8 ' WIDE CONCRETE SIDEWALK
  Assume pedestrian rated,light broom finish
- **N** FUTURE PROPOSED TRAIL
  10' Wide asphalt path
- **O** SECURITY FENCE
  See Arch. plans
- **P** VEHICULAR SECURITY GATE
  See Arch. plans
- **Q** REINFORCED VEHICULAR GRASS PAVING
  See Civil plans
- **R** VEHICULAR RATED CONCRETE
- **S** DUMPSTER ENCLOSURE

Police Department Site Plan

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Town of Nolensville **Police Headquarters**

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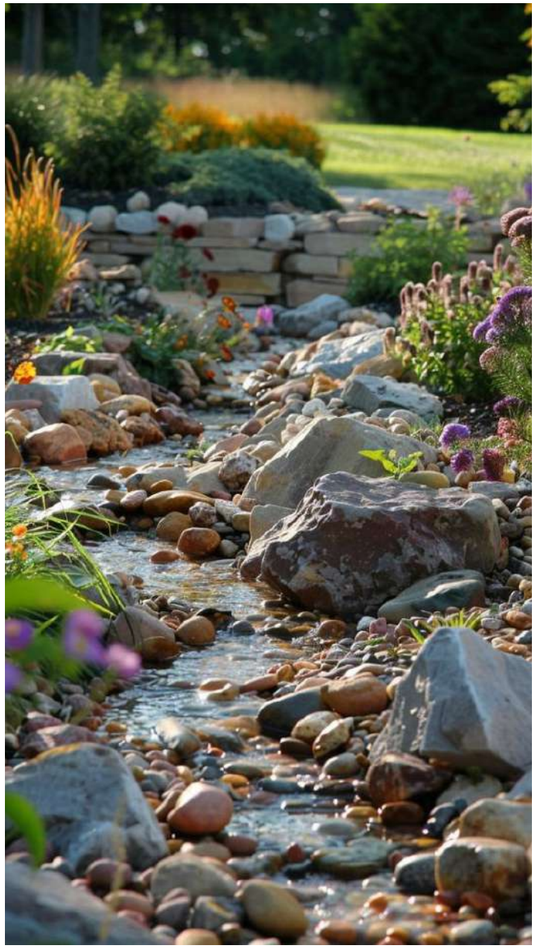

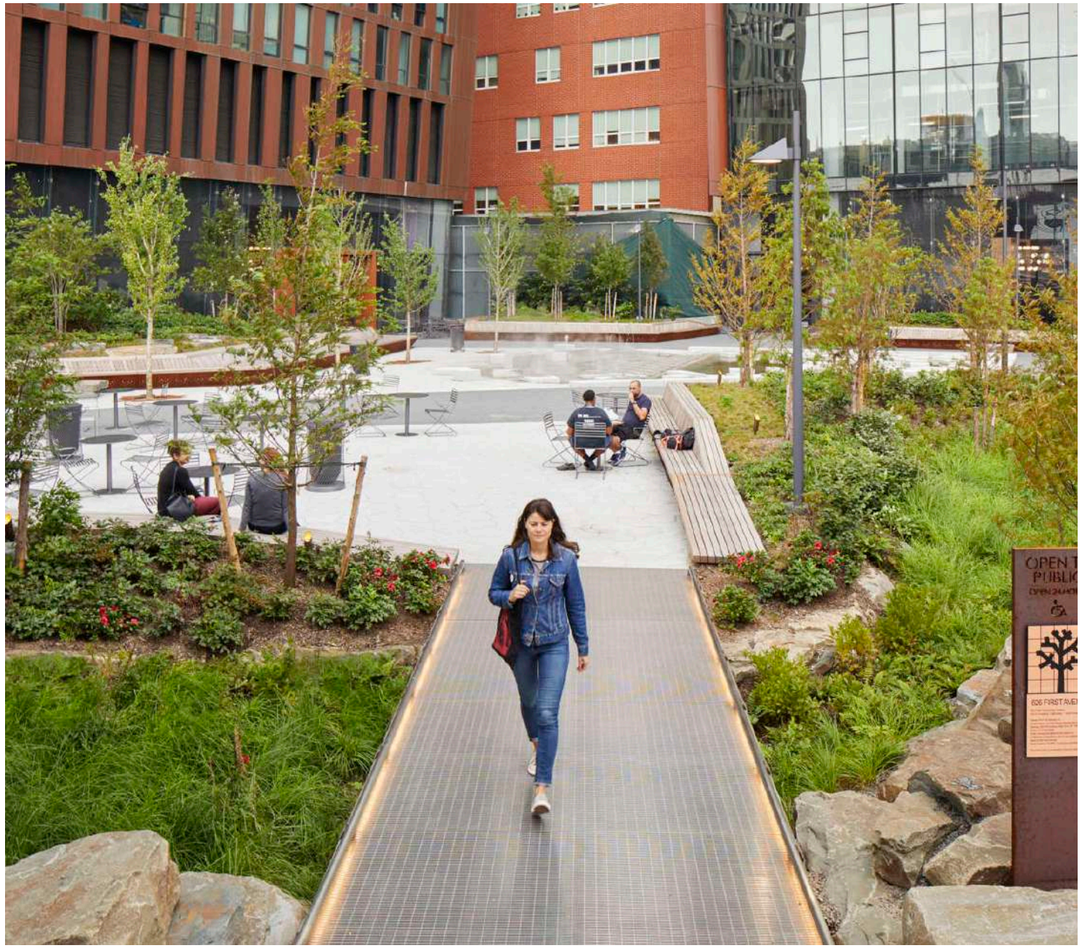

Character Imagery

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Schematic Design

Town of Nolensville **Police Headquarters**

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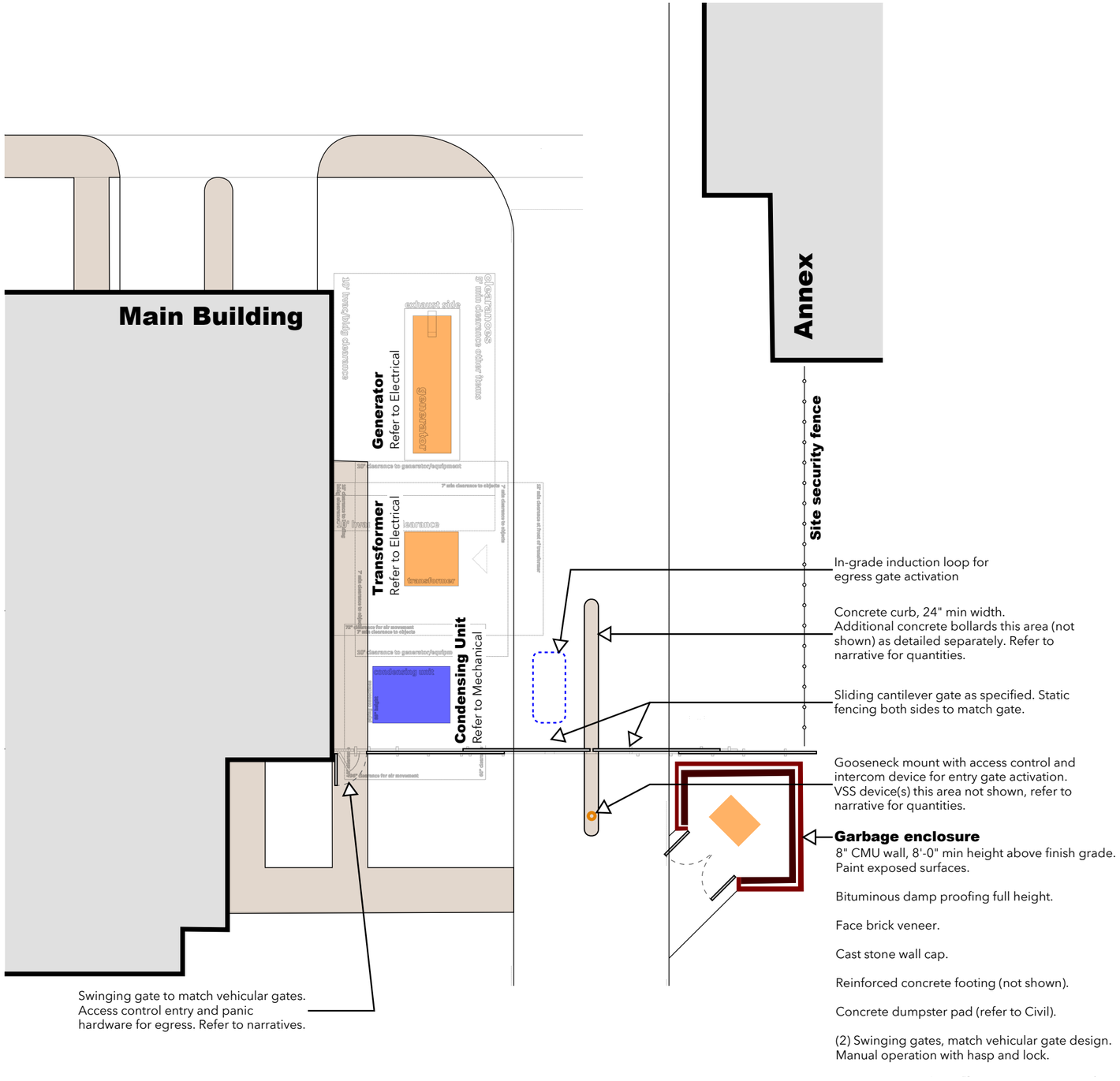

Service Yard and Security Gate Entrance

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Town of Nolensville **Police Headquarters**

2' 4' 8' 12' 20' 40'

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Architectural Documents

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Schematic Design

Town of Nolensville Police Headquarters

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Headquarters Building Plan

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Schematic Design

Town of Nolensville **Police Headquarters**

2' 4' 8' 12' 20' 40'

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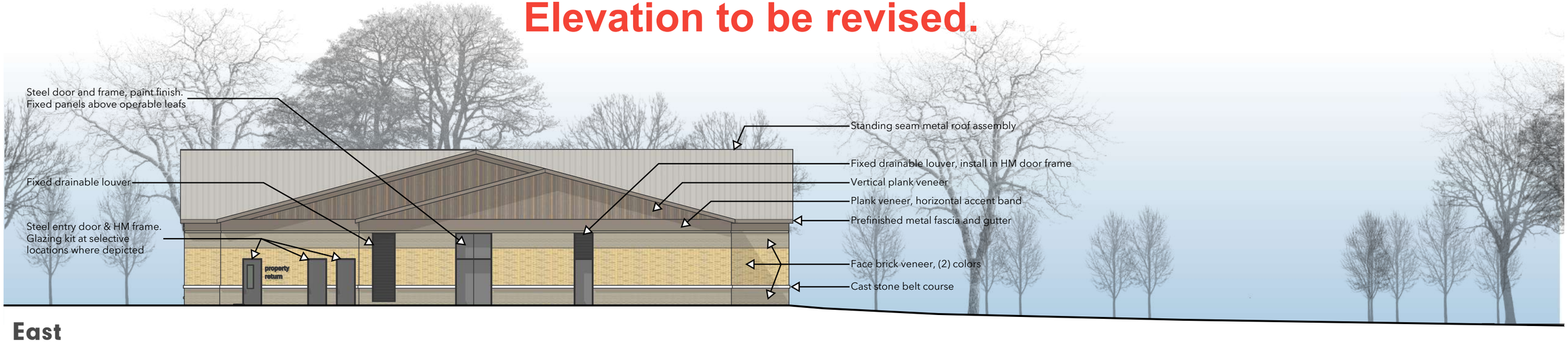
DRAFT
Elevation to be revised.

West

DRAFT
Elevation to be revised.



East

Elevations

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Schematic Design

Town of Nolensville **Police Headquarters**

2' 4' 8' 12' 20' 40'

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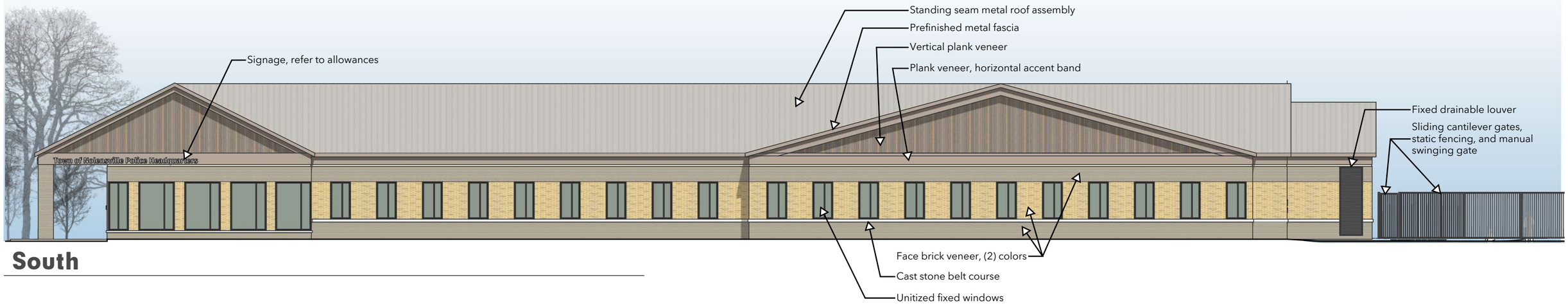
Elevation to be revised.



South

DRAFT
Elevation to be revised.

North

Elevations

16 Apr 2026

Schematic Design

Town of Nolensville Police Headquarters

2' 4' 8' 12' 20' 40'

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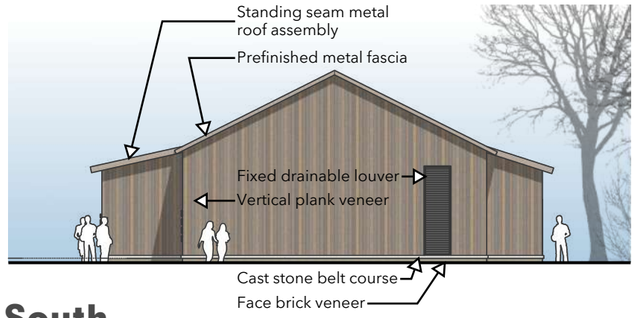
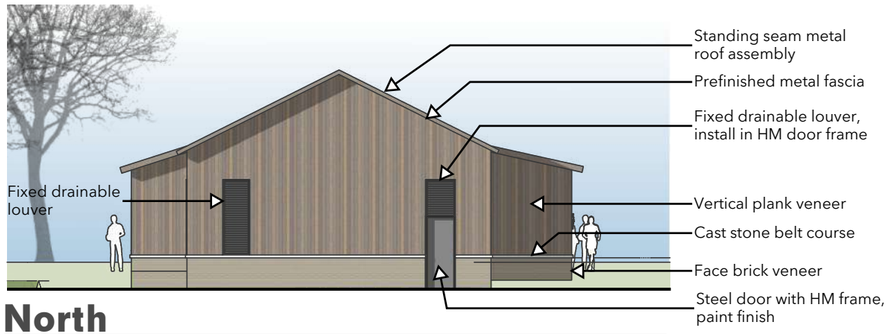
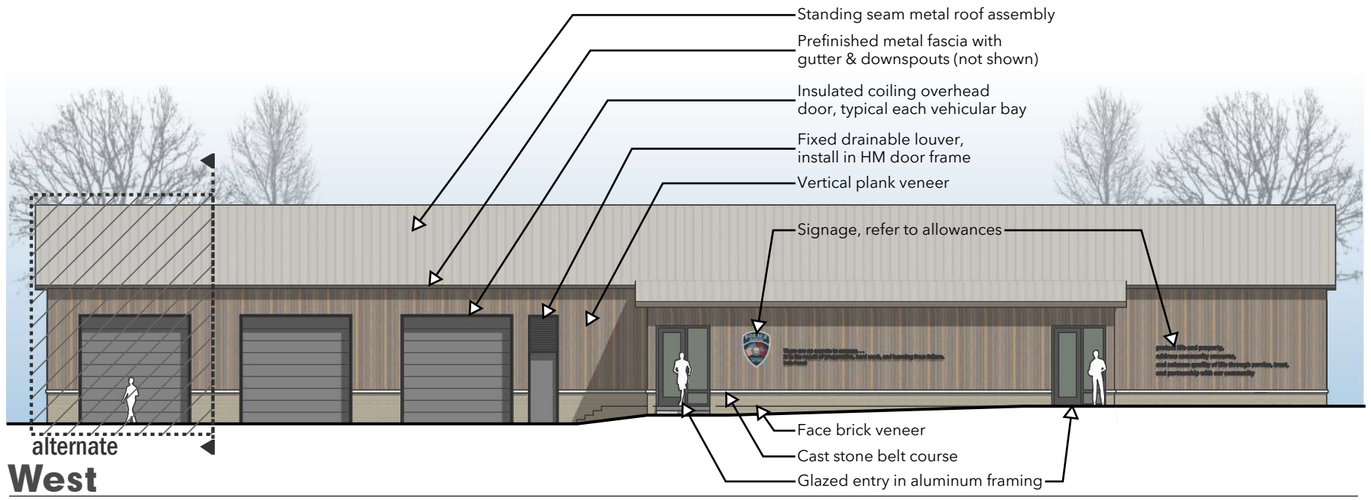


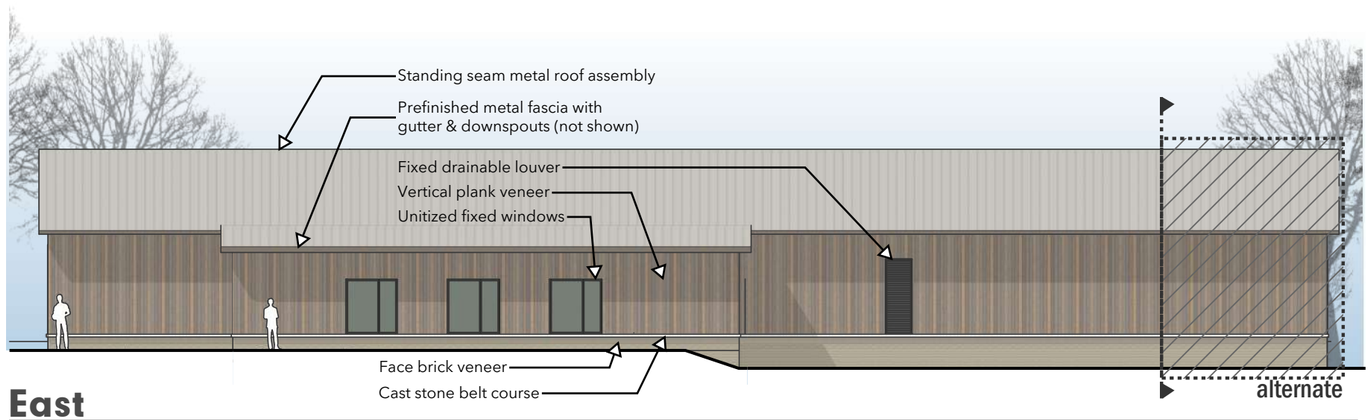
South



North

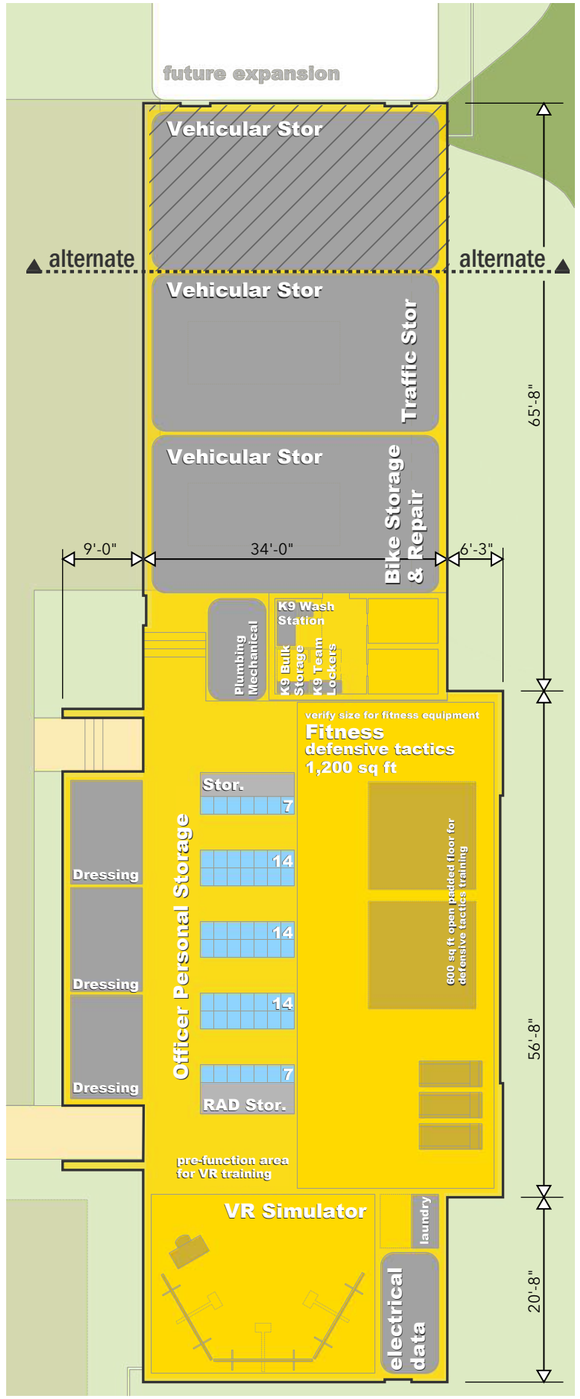


West



East

Annex Building



Annex Plan

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Town of Nolensville **Police Headquarters**

2' 4' 8' 12' 20' 40'

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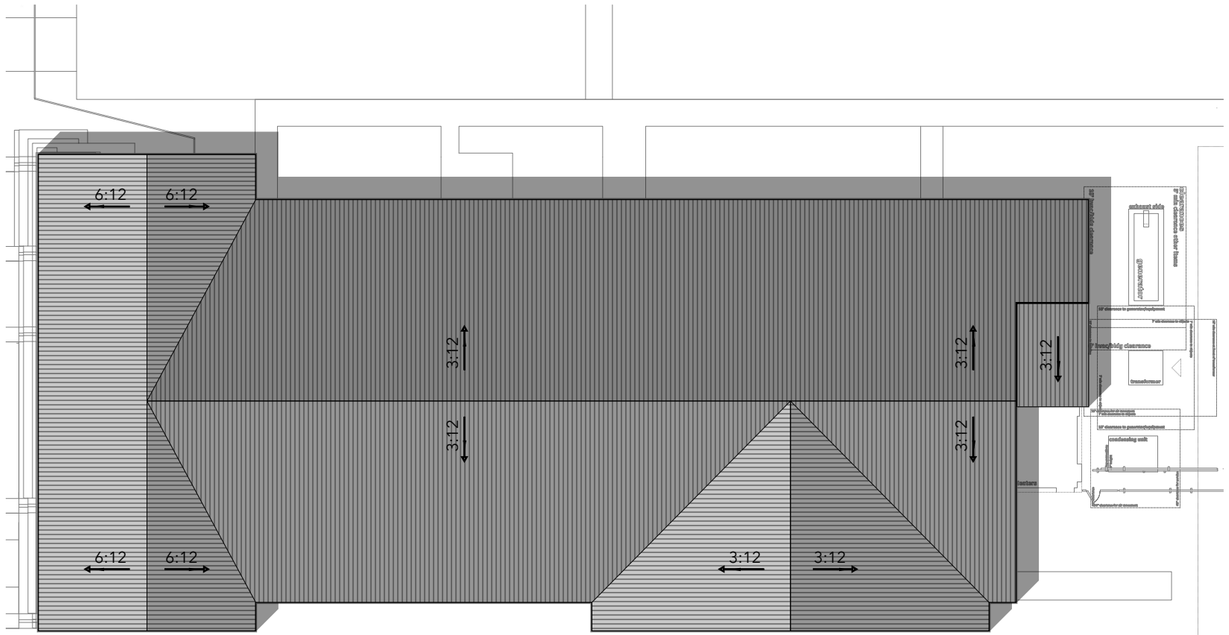
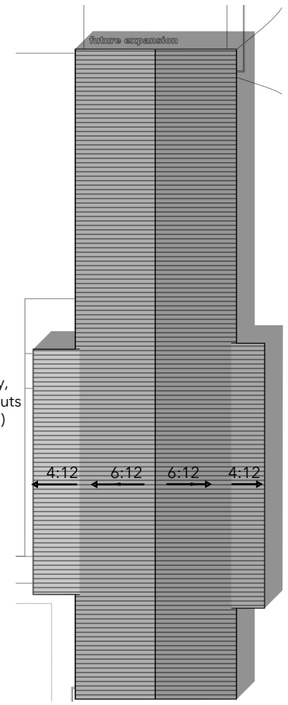


Standing seam metal roof assembly, typical. Prefinished metal downspouts and gutters as required (not shown)



Roof Plans - Main Building & Annex

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DRAFT
Main Building Elevation to be revised.

Public Entry

DRAFT
Main Building Elevation to be revised.

View towards Annex

DRAFT
Main Building Elevation to be revised.

View from Sunset

DRAFT
Main Building Elevation to be revised.

Staff Entry

Perspectives

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Town of Nolensville **Police Headquarters**

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Systems and Interior Materials Diagrams

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Town of Nolensville Police Headquarters

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FINISH LEGEND

- EXPOSED SEALED CONCRETE
- **PORCELAIN FLOOR TILE** ($6/SF)
- **PORCELAIN FLOOR TILE** ($6/SF) **PORCELAIN WALL TILE** ($6/SF) UP TO CEILING
- **PORCELAIN FLOOR TILE** ($6/SF) **PORCELAIN WALL BASE** 4" HIGH
- **RUBBER FLOORING** - INTERFACE NORA UNITA $7/SF **RUBBER BASE** - INTERFACE INTEGRAL NORA BASE
- **COMPOSITE TEXTILE CARPET TYPICAL 4" RUBBER BASE**
- **RUBBER ATHLETIC FLOORING TYPICAL 4" RUBBER BASE**
- **SEAMLESS SAFETY FLOORING 4" INTEGRAL FLASH COVE BASE**
- **WALK-OFF CARPET -** INTERFACE STEP REPEAT SR999 ($40/SY)
- **RESINOUS FLOORING INTEGRAL FLASH COVE 4" BASE**

$ INDICATE MATERIAL ALLOWANCES

- **ACOUSTIC WALL FINISH** - ACOUSTIC PANELS - ROCKFON STC 60
- **ACOUSTIC WALLCARPET**
- **ACCENT WALL FINISH** - ($15/SF)
- **PORCELAIN TILE WALL PROTECTION** - ($15/SF) 42" HEIGHT
- **RUBBER BASE TYPICAL WHERE NOT DESIGNATED AS CERAMIC TILE, INTEGRAL BASE, OR PORCELAIN TILE WALL PROTECTION -** JOHNSONITE 4"

REFER TO NARRATIVE FOR ADDITIONAL PRODUCT INFORMATION

Headquarters Building Finishes(Floors and Wall)

Annex

16 Apr 2026

Schematic Design

Town of Nolensville **Police Headquarters**

5'-6" 16' 21'-4" 48'

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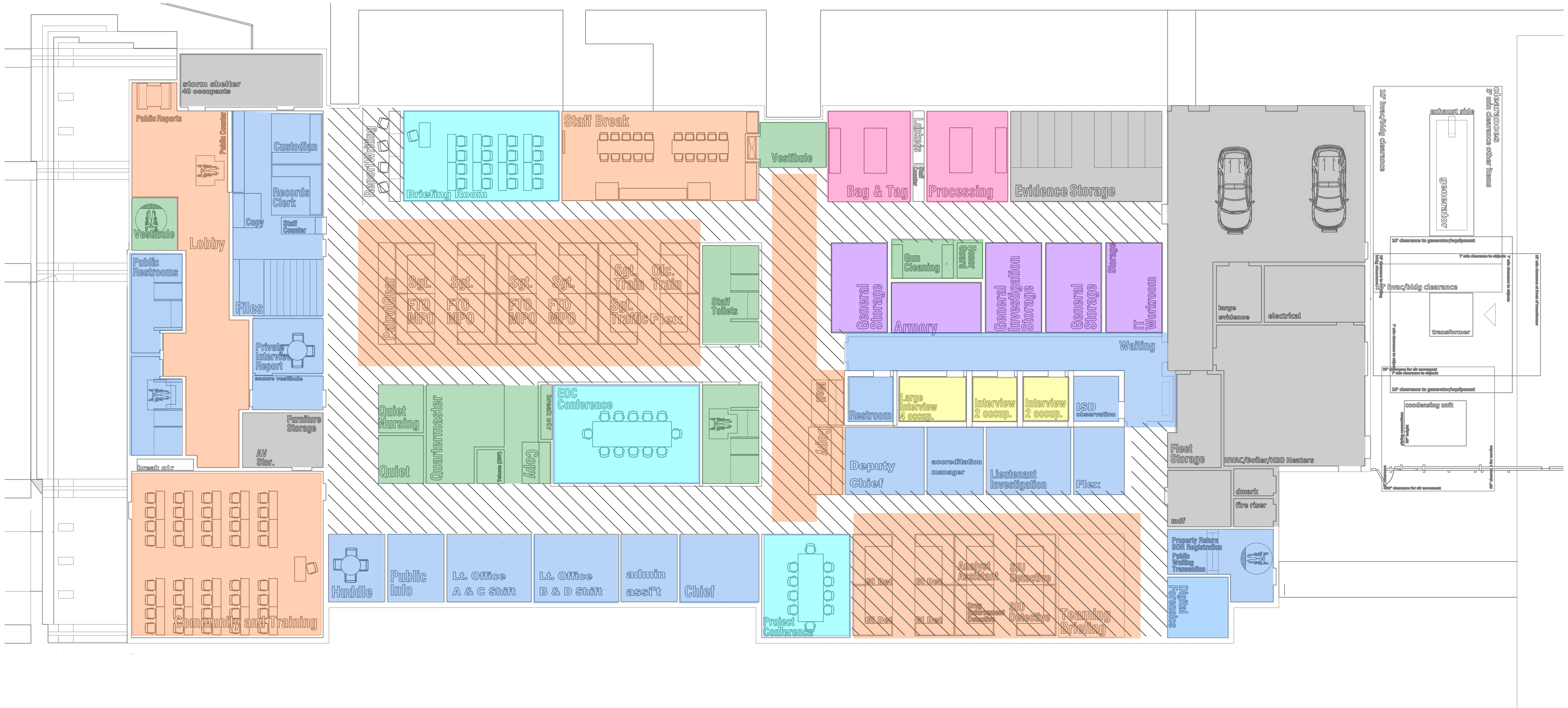
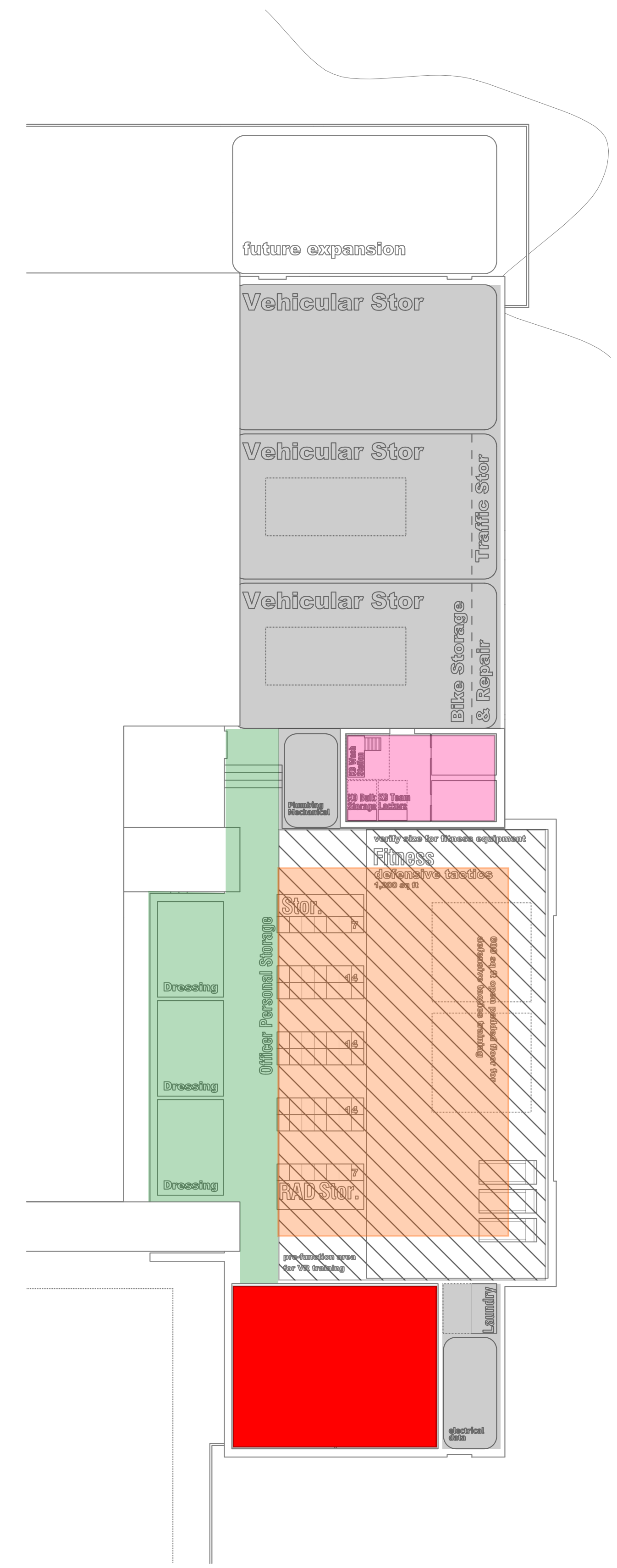
CEILING FINISH LEGEND

- **EXPOSED** TO STRUCTURE
- **EXPOSED** TO STRUCTURE - ACOUSTIC DECK TREATMENT (REFER TO ALTERNATES), DRYFALL PAINTED
- **PAINTED DRYWALL** LEVEL 4 FINISH
- **ACOUSTIC BAFFLE CLOUD** - EXPOSED TO DRYFALL PAINTED STRUCTURE ABOVE BAFFLES **TURF GRILLE CEIING SCAPE**
- **ACT A** - TYPICAL OFFICE
- **ACT B** - TYPICAL MEETING ROOM
- **ACT C** - VINYL CLEANABLE
- **ACT D** - STORAGE & UTILITY AREAS
- **ABUSE-RESISTANT CEILING ASSEMBLY** - INTERVIEW ROOMS
- **HIGH PERFORMANCE THEATER CEILING -** VR SIMULATOR ROOM





Annex

Headquarters Building Finishes(Ceilings)

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Schematic Design

Town of Nolensville **Police Headquarters**

5'-6" 16' 21'-4" 48'

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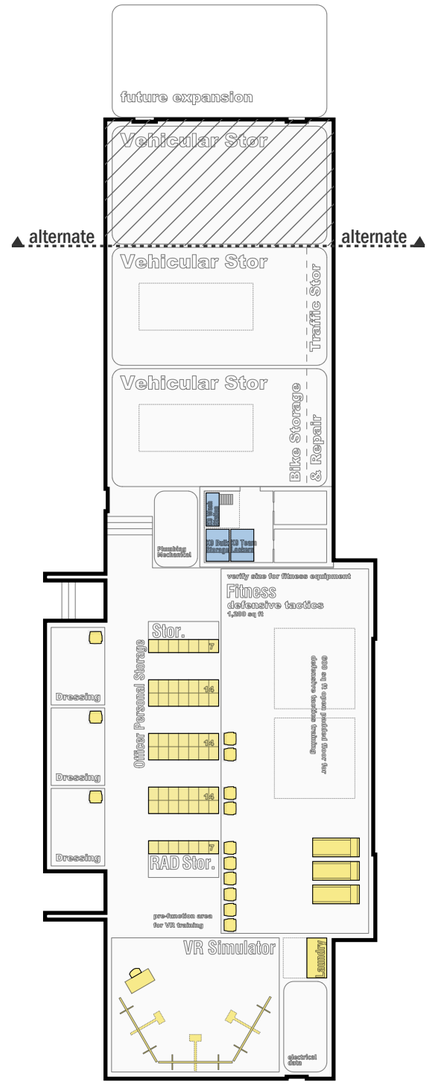
Plan Legend

Owner Provided Furnishings. Connect to power & data as required

Equipment Items - Refer to SD Narrative

Casework - Refer to SD Narrative



Headquarters Building
Furniture and Equipment

Annex

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Town of Nolensville **Police Headquarters**

5'-6" 16' 21'-4" 48'

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Plan Legend

Access Control System - Proximity Card Reader
Recessed box mount in wall 48" max AFF and 4" from strike-side of associated door jamb unless noted otherwise.

VSS Security System Camera, POE. | Assume a quantity of (5) not shown in this plan for site surveillance.
Assume a quantity of (3) not shown in this plan for controlled entry to staff parking and each sallyport bay.

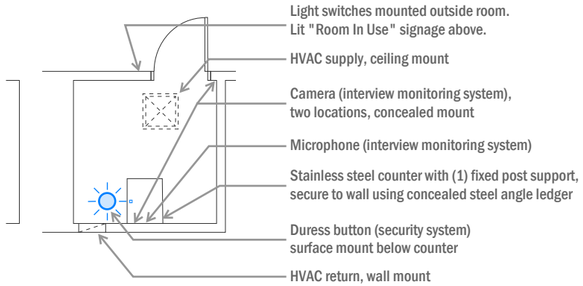
Duress Call, concealed push-button notification, integrate with associate furniture / casework

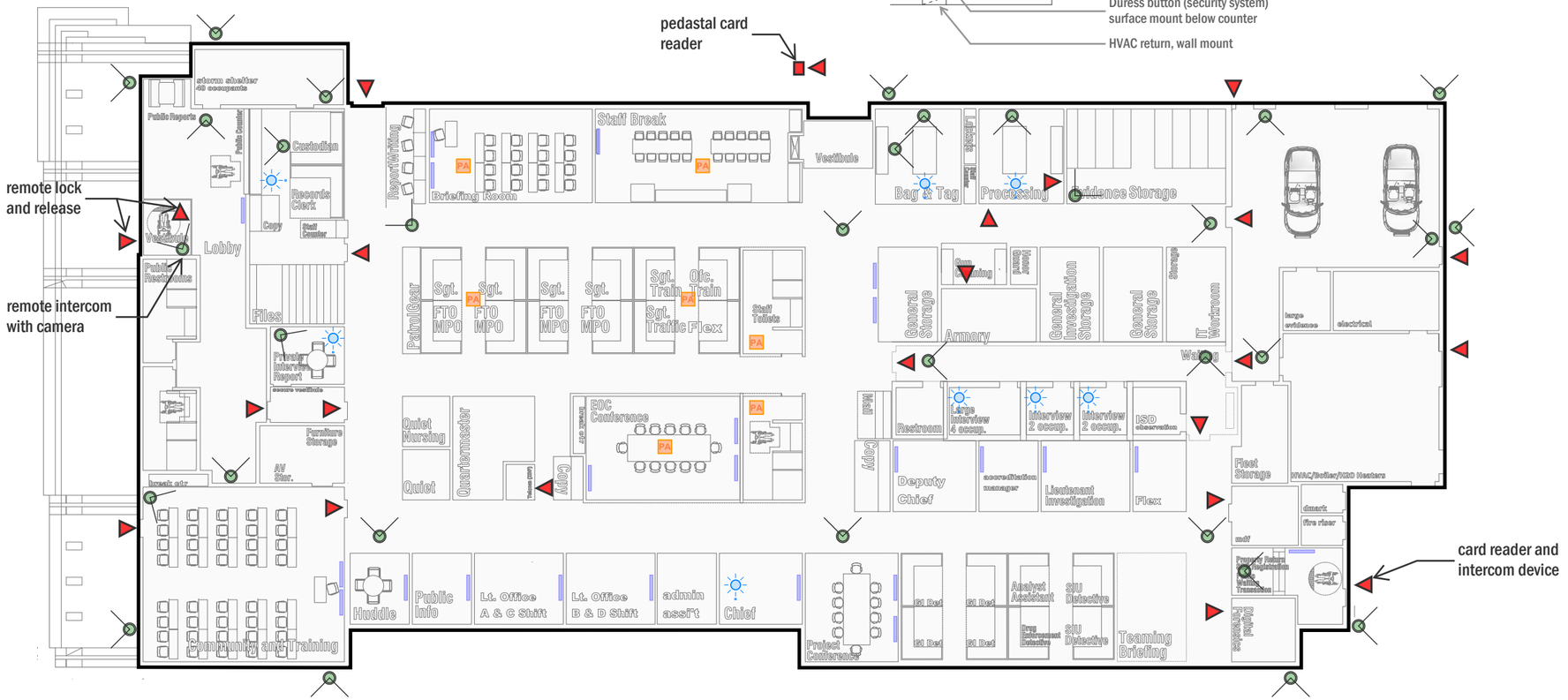
Visual Display rough-in locations for back boxes, provide (1) LAN data & (1) Quad power receptacle at each display.
Owner to furnish displays. Refer to narrative for additional AV rough-in requirements at selective locations.

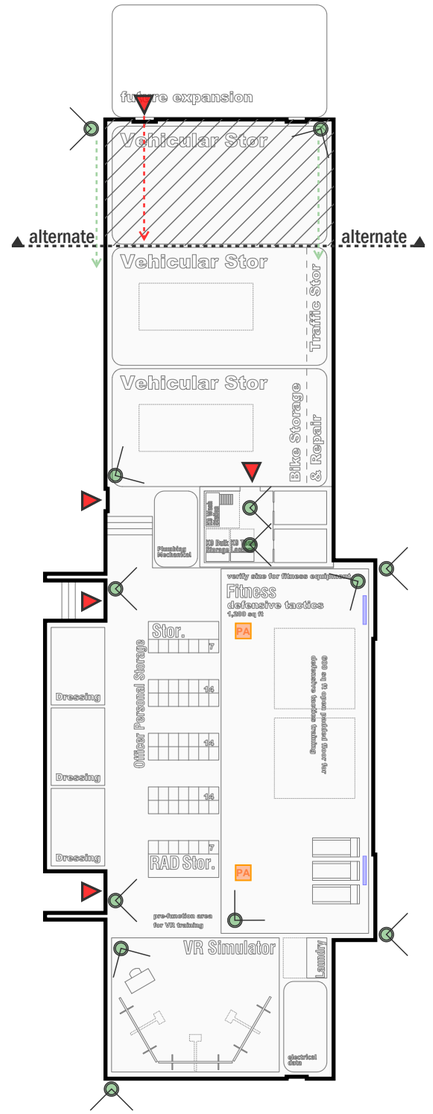
PA — Public Address System, speaker with wall-mounted volume control (not shown)

Prototypical interview Room

Endpoint devices indicated as "Interview Monitoring" system to be provided by others under separate contract. GC to provide all rough-in and (1) LAN data to each device. Refer to Technology narrative.







Headquarters Building
Auxiliary Systems

Annex

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Town of Nolensville **Police Headquarters**

5'-6" 16' 21'-4" 48'

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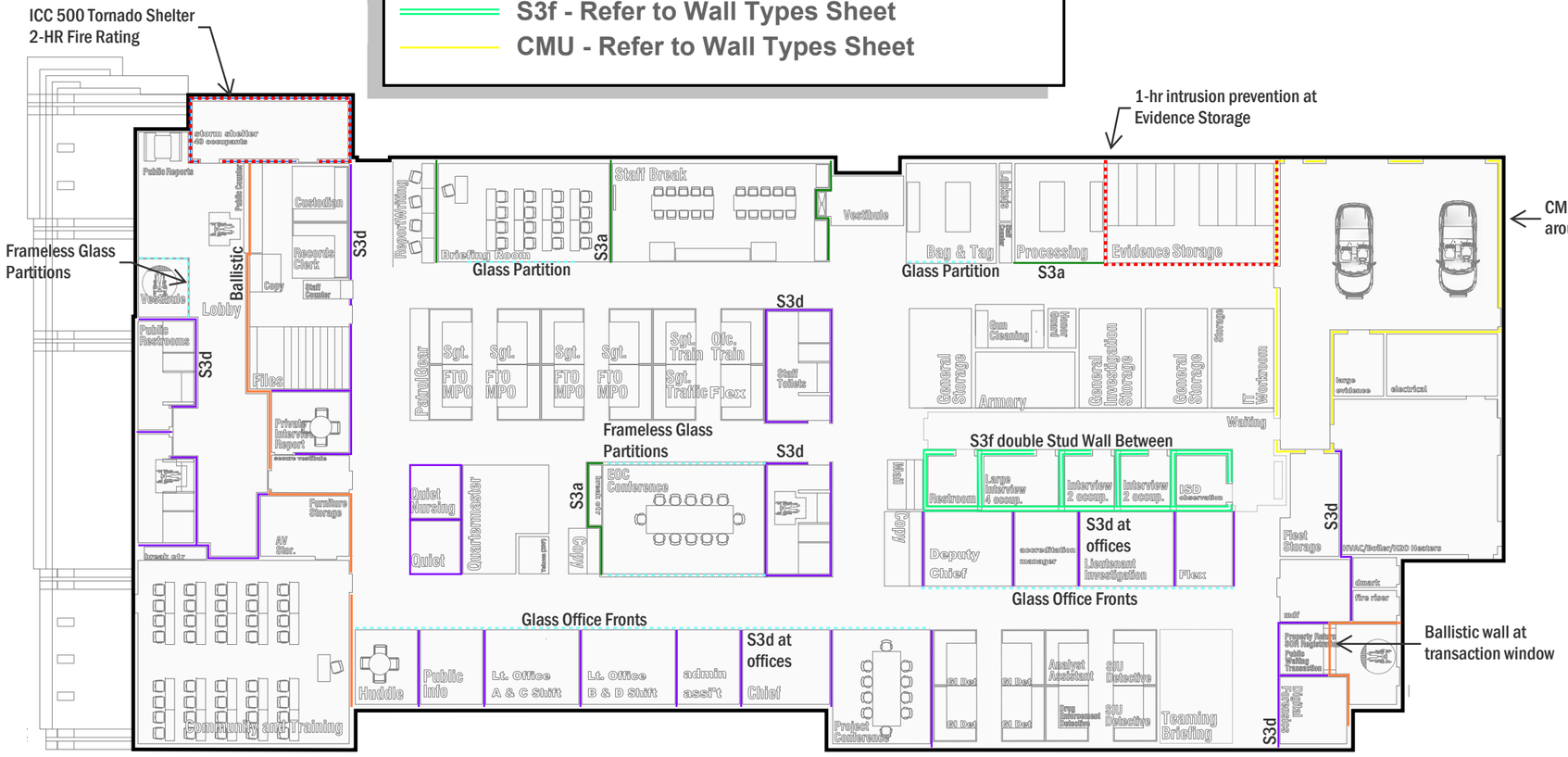
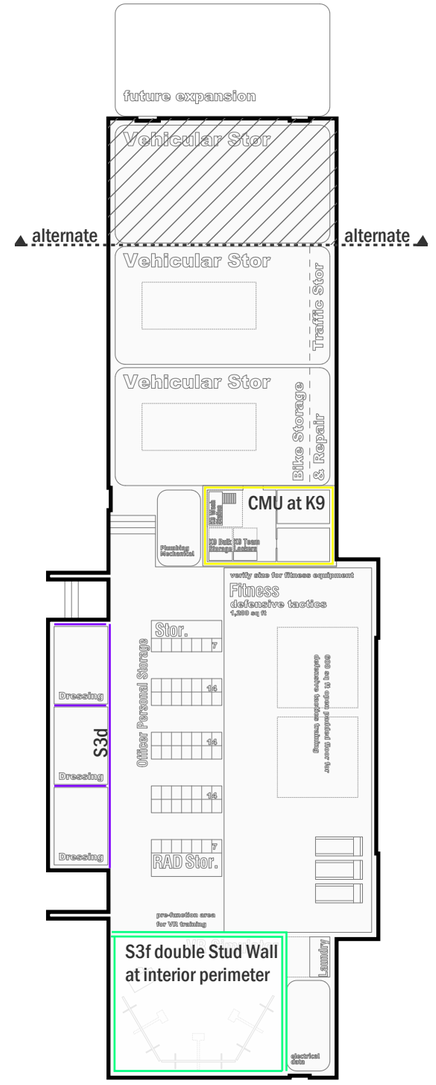
Symbol Key

- Glass Walls - Refer to plan below
- ICC 500 Tornado Shelter 2-HR Fire Rating
- 1-HR intrusion prevention
- Ballistic
- S3a - Refer to Wall Types Sheet
- S3d - Refer to Wall Types Sheet
- S3f - Refer to Wall Types Sheet
- CMU - Refer to Wall Types Sheet





Headquarters Building
Interior and Exterior Wall Types

Annex

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Schematic Design

Town of Nolensville **Police Headquarters**

5'-6" 16' 21'-4" 48'

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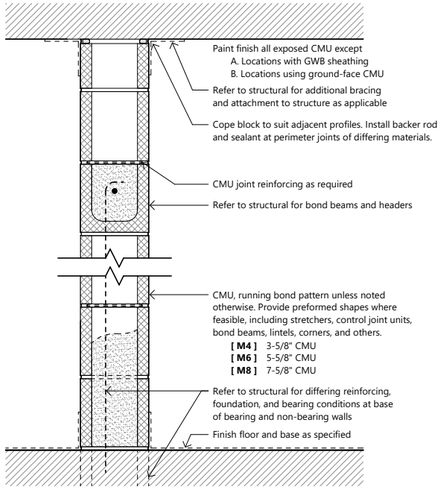
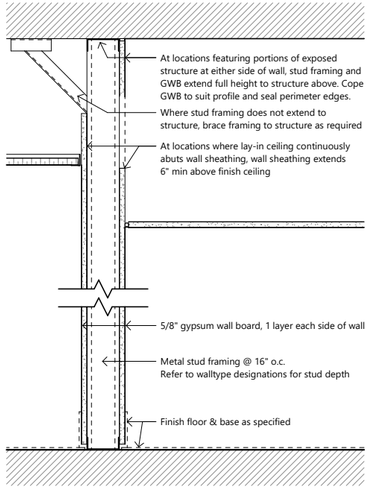


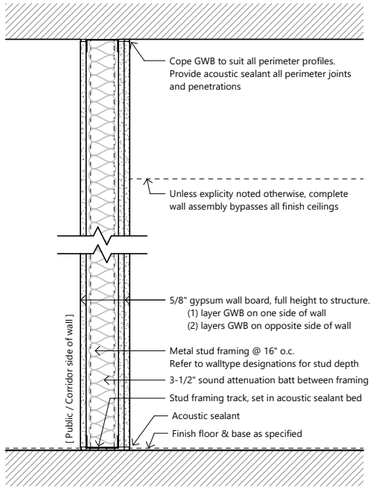
Type **M8** Description **8" CMU wall**

Refer to interior wall types plan for locations



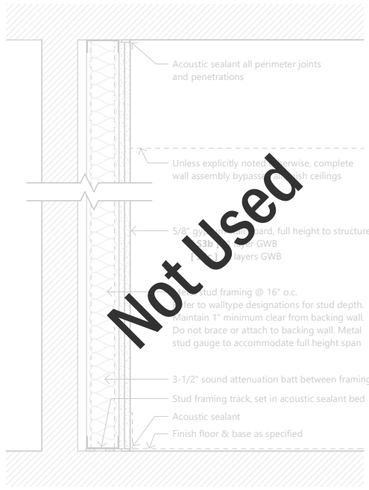
Type **S3** Description **3-5/8" Metal Stud**

Typical Interior wall, unless noted otherwise



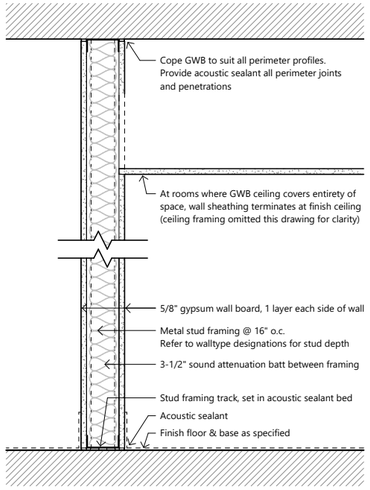
Type **S3d** Description **3-5/8" Metal Stud [Acoustic type D]**
STC 52 (ref NGC 2018108)

Refer to interior wall types plan for locations



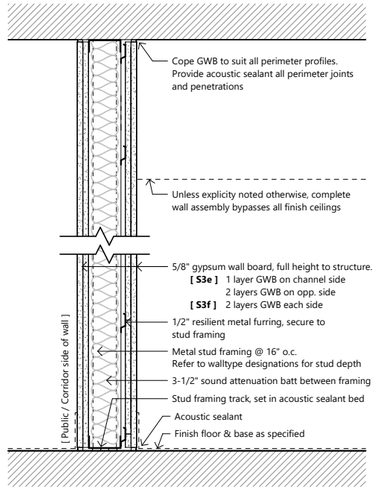
Type **S3b** Description **3-5/8" Metal Stud [Acoustic type B]**
STC 34 (NGC 2013012 ref)

Type **S3c** Description **3-5/8" Metal Stud [Acoustic type C]**
STC 38 (NGC 2013013 ref)



Type **S3a** Description **3-5/8" Metal Stud [Acoustic type A]**
STC 44 (ref NGC 2018159)

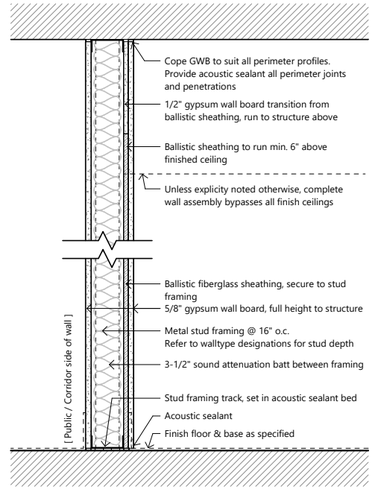
Refer to interior wall types plan for locations



Type **S3e** Description **3-5/8" Metal Stud [Acoustic type E]**
STC 52 (ref NGC 2017216)
Not Used

Type **S3f** Description **3-5/8" Metal Stud [Acoustic type F]**
STC 61 (ref NGC 2017215)

Refer to interior wall types plan for locations



Type **B3a** Description **Ballistic 3-5/8" Metal Stud [Acoustic type A]**
STC 52 (ref NGC 2018108)
UL 752 Level III

Refer to interior wall types plan for locations

Interior Walltype Notes

Notes

1. **General**
   - A. Refer to finish plans for additional finish materials.
     - a. All tiled walls to include specified backer board in lieu of gypsum wallboard.
   - B. Refer to structural for additional requirements as applicable.
   - C. Contractor to coordinate clear dimensions with wall & ceiling assemblies as required. Unless noted otherwise, dimensions indicated on floor and ceiling plans are measured to:
     - a. Finish face of interior gypsum wall board (at stud and masonry assemblies where applicable).
     - b. Finish face of masonry (where exposed without additional sheathing).
     - c. Structural centerline of steel framing.
   - D. Attachment of metal stud framing to concrete, steel, or CMU components shall be made using powder-actuated fasteners unless noted otherwise.
2. **Gypsum wallboard installation**
   - A. All gypsum board to be type "X" in 5/8" min thickness.
   - B. Outermost layer of GWB to be abuse-resistant at all locations unless noted otherwise.
   - C. Outermost layer of GWB to be impact-resistant within the following locations:
     - a. Interview rooms
   - D. Abuse-resistant and impact-resistant requirements may be omitted above finish ceilings where wall sheathing extends to deck.
   - E. Panels installed vertically. Joints finished, staggered, and sealed at perimeter edges.
   - F. Gypsum board may be omitted at inaccessible surfaces of chase walls unless such enclosures are rated for fire- or smoke-resistance.
   - G. Unless explicitly indicated otherwise, all gypsum wall board shall be cut to suit profile of abutting construction, including deck flutes, steel framing, and all penetrations. Seal such perimeter joints using acoustic / fire sealant as suitable for walltype.
3. **Interior plywood sheathing**
   - A. Refer to walltype descriptions for walls featuring plywood sheathing in lieu of gypsum board.
   - B. 3/4" CDX plywood sheathing shall also be installed in all I.T. rooms and other rooms as indicated on finish plans for attachment of wall-mounted products. Unless explicitly noted otherwise, such plywood sheathing is installed over gypsum board sheathing using 8 ft x 4 ft panels oriented vertically, positioned immediately above specified wall base, and painted to match gypsum board sheathing.
   - C. Interior plywood sheathing shall be fire-retardant treated.
4. **Walls designated as acoustic**
   - A. Stagger placement of electrical boxes between adjacent rooms such that electrical boxes do not share the same framing cavity. All electrical boxes to be fully sealed using acoustic mastic.
5. **Wall walls designated as fire rated**
   - A. Stencil above ceiling and in concealed spaces with corresponding fire rating with minimum 2 inch high letters at 10'-0" o.c. maximum - e.g. "1-hour partition - protect all openings"
   - B. Must comply with IBC section 721 "Prescriptive Fire Resistance"

Interior Typical Wall Assemblies

16 Apr 2026

Schematic Design

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Interior and Exterior Assembly Diagrams

16 Apr 2026

Schematic Design

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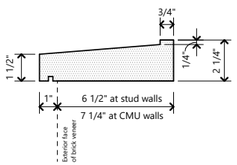
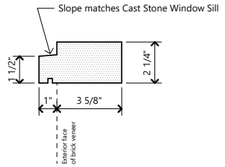


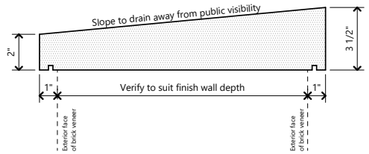
Cast Stone Window Sill

Typical at all window openings in walls with brick veneer. Match masonry opening width.



Cast Stone Belt Course

Continuous accent band where indicated. Substitute using cast stone window sill unit at window openings.

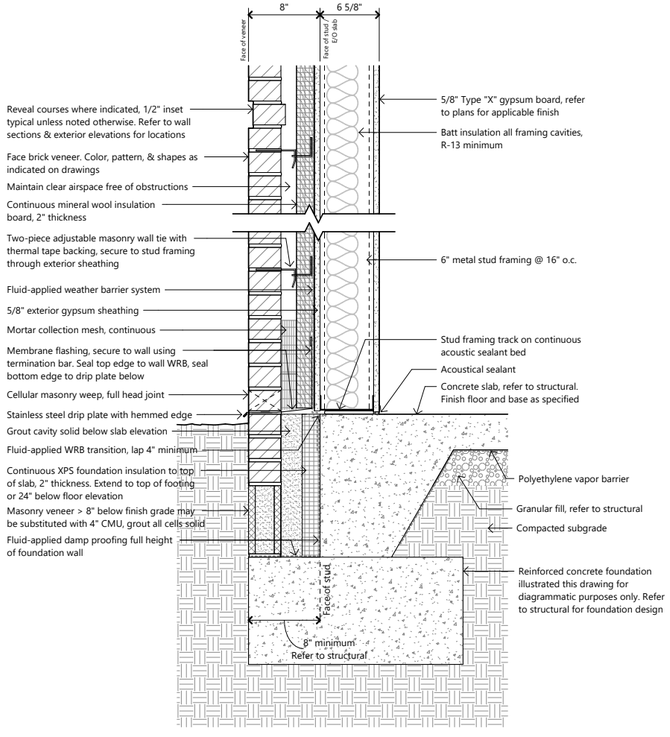


Cast Stone Wall Cap

Typical at exterior masonry walls such as those at vehicular gates, equipment / refuse enclosure, outdoor landscape walls, and outdoor K9 runs.

1 Cast Stone Profiles

N.T.S



2 Metal Stud Wall Assembly with Brick Veneer

N.T.S.

Typical Wall Assemblies

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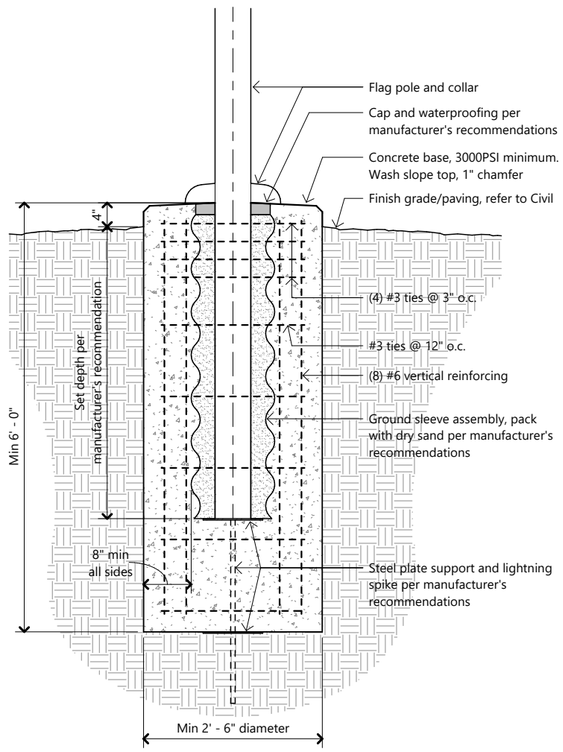
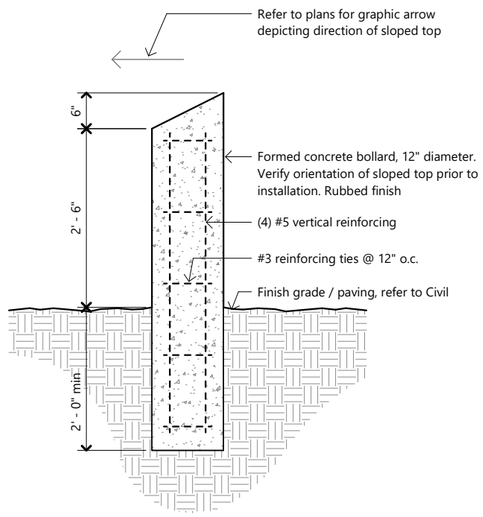


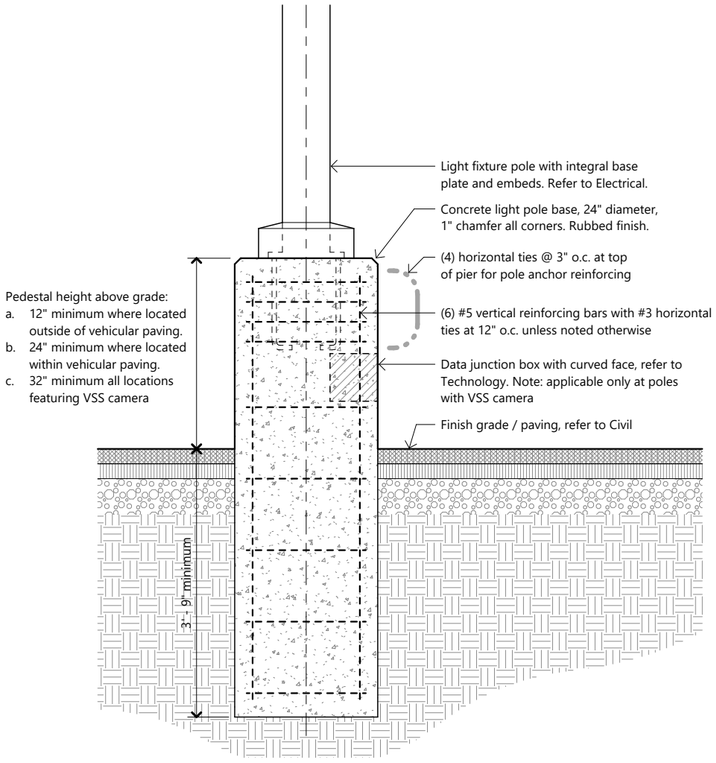
1 Flag Pole Base

N.T.S.



2 Concrete Bollard

N.T.S.



3 Site Pole Base w/ Datacom Pedestal

N.T.S.

Exterior Details

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Engineering Systems Diagrams

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SITE DEMOLITION NOTES

1. Base Information was taken from a survey prepared by Southern Precision Land Surveying, INC., dated October 4, 2024. CSDG and any of their consultants shall not be held responsible for the accuracy and/or completeness of that information shown hereon or any errors or omissions resulting from such.
2. The contractor shall call Tennessee One Call (811) 72 hours prior to proceeding with any excavation.
3. The contractor shall field verify the limits of demolition with the owner's representative prior to commencement of work.
4. The contractor shall conform to local codes, obtain all permits and give all notices required for execution of the work.
5. Cavities left by structure removal shall be suitably backfilled and compacted in accordance with these plans and specifications.
6. The contractor is responsible for all demolition and removal necessary to accomplish the proposed improvements shown on these plans.
7. The contractor is responsible for locating all charted and uncharted utilities. Take care to protect utilities that are to remain. Repair any damage according to local standards and at the contractor's expense. Coordinate all construction with the appropriate utility company.
8. In areas where existing pavement, walks, or curbs are to be removed, saw cut to provide a clean edge. Coordinate extent of pavement demolition with the limit of new improvements on the site layout plan.
9. All materials being removed and not relocated under the new construction, including trees and shrubs, signs, utility structures, etc., shall be first offered to the owner's representative and if not accepted shall then be properly disposed of by the contractor.
10. The contractor shall use water sprinkling and other suitable methods as necessary to control dust and dirt caused by the demolition work.
11. The contractor shall preserve and protect survey control points and shall be responsible for replacement of any disturbed control points.
12. No utility or storm sewer lines shall be demolished until the new lines have been installed and are placed into operation.
13. Contractor shall coordinate phasing of the demolition with the owner's representative and local governing agency prior to beginning work. Disruption of existing utility services and traffic patterns shall be minimized to the extent possible and initiated only after approval by the local governing agency and the utility companies.
14. Where water line and sewer line abandonment is planned, the contractor may abandon water lines and sewer lines in place where they occur at least 24" (to top of the pipe) below final subgrade elevations. All utility lines being abandoned in place shall have all ends permanently closed using a concreted plug. Existing lines within the proposed building footprint (and 10 feet beyond the building footprint) shall be removed.
15. Existing lights and poles being removed shall be first offered to the owner's representative prior to disposing of them. Coordinate Lighting demolition and layout with the electrical drawings.
16. Existing trees to be preserved are to be barricaded before beginning construction. In accordance with the tree preservation notes and detail on the landscape plan.
17. The contractor shall incorporate into his work any isolation valves or temporary plugs required to construct new utility lines and demolish existing utility lines.
18. Existing irrigation lines lie within the area affected by the proposed construction. The contractor shall rework the existing irrigation systems in accordance with directives noted on the landscape plan. Service shall be maintained during construction to the landscaped areas currently irrigated.
19. Relocation of existing plant materials shall be coordinated with the owner and relocated to a designated area on the site.
20. Selective clearing consisting of removal of vines, saplings under 1" diameter and underbrush shall be performed in tree preservation areas internal to the project and noted on plans.

GENERAL NOTES

1. Provide a smooth transition between existing pavement and new pavement. Slight field adjustment of final grades may be necessary.
2. All roadway, driveway, sidewalk, and curb construction shall conform to the requirements and specifications of the local municipality codes and requirements.
3. Concrete for curbs and sidewalks shall be 3500 PSI concrete unless required otherwise by local codes.
4. The site layout is based on control points as noted.
5. The contractor shall conform to all local codes and receive approval where necessary before commencement of any construction.
6. All site related construction materials and installation shall conform to local governing agency regulations and specifications.
7. Handicap ramps shall have a maximum slope of 1:12.
8. All pavement materials and construction shall conform to the local governing agency and state D.O.T. standards and specifications.
9. The contractor shall check all existing conditions, (i.e. inverts, utility routings, utility crossings, and dimensions) in the field prior to commencement of any utility work. Report any discrepancies to the owner's representative. The contractor shall repair any damage caused during construction to existing features (i.e. pavement, sidewalks, curbs, utilities, etc.), at his own expense, to the standards of the preconstruction condition or better.
10. Dimensions are to face of curb and/or exterior face of building unless otherwise noted.
11. Curbs shall be parallel to the centerline of drives. The curb shall be placed only after having all break points (PC & PT of curves) located at the face of curb or at a consistent offset by a land surveyor.
12. Any work unacceptable to the owner's representative or to the local governing authority shall be repaired or replaced by the contractor at no additional expense to the owner.
13. Existing pavement of private or public roadways/drives shall be patched in accordance with the local governing authority's standards wherever utility installation requires removal of the existing pavement. Coordinate pavement trenching locations with site civil, plumbing and electrical plans.
14. The contractor shall comply with all pertinent provisions of the "manual of accident prevention in construction" issued by AGC of America, Inc. and the "Safety and Health Regulations for Construction" issued by the U.S. Department of Public Works.
15. Contractor shall give all necessary notices and obtain all permits prior to commencement of any construction.
16. In the event of any discrepancies and/or errors found in these site drawings, or if problems are encountered during construction, the contractor shall be required to notify the engineer before proceeding with the work.
17. The general contractor is particularly cautioned that the location and/or elevation of the existing utilities shown hereon is based on utility company records, and where possible, field measurements. The contractor shall not rely on this information as being exact or complete. The contractor shall call the appropriate utility company at least 72 hours prior to any excavation and request field verification of utility locations. It shall be the contractor's responsibility to relocated existing utilities conflicting with improvements shown hereon in accordance with all local, state, and federal regulations governing such operations.
18. Contractor shall exercise extreme caution in the use of equipment in and around overhead and underground electrical wires and services. If at any time in the pursuit of this work the contractor must work in the close proximity of the above-noted wires, the electric company shall be contacted prior to such work and the proper safety measures taken. A thorough examination of the overhead and underground wires in the project area should be made by the contractor prior to the initiation of construction.
19. The owner and engineer do not assume responsibility for the possibility that, during construction, utilities other than those shown may be encountered or that actual locations of those shown may be different from locations designated on the contract drawings. In areas where it is necessary that exact locations be known of underground utilities, the contractor shall, at his own expense, furnish all labor and tools necessary to either verify and substantiate or definitely establish the position of underground utility lines.
20. Do not scale this drawing as it is a reproduction and subject to distortion.
21. These plans, prepared by CSDG, do not extend to or include systems pertaining to the safety of the construction contractor or its employees, agents or representatives in the performance of the work. The seal of the engineering services registered professional engineer hereon does not extend to any such safety systems that may now or hereafter be incorporated into these plans. The construction contractor shall prepare or obtain the appropriate safety systems which may be required by U.S. Occupational Safety and Health Administration (OSHA) and/or local regulations.
22. In the case of conflict between this drawing and any other drawing and/or the specifications, the engineer shall be immediately notified for clarification.

SITE GRADING, DRAINAGE AND EROSION CONTROL NOTES

1. The disturbed area for this project is approximately XX.X± acres.
2. The contractor shall comply with all pertinent provisions of the manual of accident prevention and construction issued by AGC of America, Inc. and the safety and health regulations of construction issued by the U.S. Department of Labor.
3. The contractor shall call "Tennessee One Call" (811) 72 hours prior to proceeding with any excavation.
4. If any springs or underground streams are exposed during construction, permanent French drains may be required. The drains shall be specified and located during construction as required by the conditions which are encountered, and shall be approved by the engineer.
5. Stockpiled topsoil or fill material shall be treated so no sediment run-off will contaminate surrounding areas or enter nearby streams.
6. Clean silt barriers when they are approximately 50% filled with sediment or as directed by the owner's representative. Silt barriers shall be replaced as effectiveness is significantly reduced, or as directed by the owner's representative.
7. All new pipes under existing paved areas shall be backfilled to the top of subgrade with # 57 crushed stone.
8. Sediment removed from sediment control structures is to be placed at a site approved by the local governing authority. It shall be treated in a manner so that the area around the disposal site will not be contaminated or damaged by the sediment in the run-off. Cost for this treatment is to be included in the bid price for earthwork. The contractor shall obtain the disposal site as part of his work.
9. Reinforced concrete storm drainage pipe shall be Class III. Corrugated metal pipe shall be 14 gauge unless otherwise noted. HDPE shall be N12 dual wall pipe with smooth interior unless otherwise noted.
10. Minimum grade on asphalt or concrete paving shall be 1.0%.
11. Construct silt barriers before beginning any grading operations.
12. This grading & drainage plan is not a determination or guarantee of the suitability of the subsurface conditions for the work indicated. Determination of the subsurface conditions for the work indicated is solely the responsibility of the contractor.
13. Do not disturb vegetation or remove trees except when necessary for grading purposes.
14. Top of grate elevations and location of coordinates for drainage structures shall be installed as shown on the plan unless otherwise noted. The grates shall slope longitudinally with the pavement grades. Coordinates provided are for the center of the grate (at the face of curb where applicable).
15. Any site used for disposal and/or stockpile of any material shall be properly permitted for such activity. It is the responsibility of the contractor to see that all required permits are secured for each property utilized. A copy of the approved permit must be provided to the inspector prior to commencement of work on any property. Failure to do so may result in the contractor removing any illegally placed material at his own expense.
16. Respread topsoil (6 inch minimum thickness), seed, and straw all disturbed areas as soon as possible after final grading is completed, unless otherwise indicated. Contractor shall take whatever means necessary to establish permanent soil stabilization.
17. Proposed contour lines and spot elevations are the result of an engineered grading design and reflect a planned intent with regard to drainage and movement of materials. Should the contractor have any question of the intent or any problem with the continuity of grades, the engineer shall be contacted immediately.
18. All cut and fill slopes shall be 3 horizontal to 1 vertical or flatter unless otherwise indicated on plans.
19. Positive drainage shall be established as the first order of work and shall be maintained at all times during and after construction. Soil softened by perched water in foundation and pavement areas must be undercut and replaced with suitable fill materials.
20. Remove sediment from all drainage structures before acceptance by local governing agency, or as directed by the owner's representative.
21. Contractor shall conform to all applicable codes and obtain approval as necessary before beginning construction.
22. Remove the temporary erosion and water pollution control devices only after a solid stand of grass has been established on graded areas and when in the opinion of the owner's representative, they are no longer needed.
23. Provide temporary construction access(es) at the point(s) where construction vehicles exit the construction area. Maintain public roadways free of tracked mud and dirt.
24. All earthwork, including the excavated subgrade and each layer of fill, shall be monitored and approved by a qualified geotechnical engineer, or his representative.
25. All fill material on this project shall be approved by the geotechnical engineer prior to placement. This material shall be placed in lifts and compacted as directed by the geotechnical engineer. The contractor shall be responsible for employing a geotechnical engineer if one is not provided by the owner.
26. All drainage construction materials and installation shall conform to the requirements and specifications of the local governing agency.
27. It shall be the contractor's responsibility to waste excess earth material off site at no additional cost to the owner. The contractor shall first offer the excess material to the owner. If not accepted by the owner, the contractor shall dispose of earth material off site. It shall also be the contractor's responsibility to import suitable material (at no additional cost to the owner) for earthwork operations if sufficient amounts of earth material are not available on site.
28. The contractor shall check all existing grades and dimensions in the field prior to beginning work and report any discrepancies to the engineer. Commencement of any grading work constitutes the contractor's acceptance of the existing grade as matching those shown on the plans.
29. Strip topsoil from all cut and fill areas and stockpile. Upon completion of general grading respread the topsoil over all disturbed areas, to a minimum depth of 6". Contractor shall supply additional topsoil if insufficient quantities exist on site. Remove any excess topsoil from site.
30. The contractor shall take special care to compact fill sufficiently around and over all pipes, structures, valve stems, etc., inside the proposed paved areas to avoid settlement. Any settlement during the warranty period shall be restored by the contractor at no additional cost to the owner.
31. In no case shall slope height, slope inclination, or excavation depth, including trench construction, exceed those specified in local, state and federal regulations, specifically the current OSHA Health and Safety Standards for Excavations (29 CRF Part 1926) shall be followed.
32. All fill slopes and cut slopes on this project shall be reviewed by the owner's geotechnical engineer during construction to confirm that the slopes are (will be) stable. It is the contractor's responsibility to have this confirmation in writing from the geotechnical engineer.
33. All fill on this project shall be installed and compacted in accordance with the owner's geotechnical engineer's recommendation. The owner's geotechnical engineer shall review all filling operations to confirm the earthwork is properly installed and compacted. It is the contractor's responsibility to have this conformation in writing from the geotechnical engineer.
34. Relocation of existing plant materials shall be coordinated with the owner and relocated to a designated area on site.
35. All horizontal and vertical information of proposed culverts shown hereon which accept/discharge flows to/from existing channels are approximate utilizing topographic drawings. The final horizontal and vertical alignments shall be field located by the contractor prior to the ordering of materials or commencement of construction and shall notify the engineer of any discrepancies to what was designed.
36. The contractor shall coordinate the exact location of the storm drain connections at the building with the plumbing plans.
37. The location of all diversion swales and ditches shall be field adjusted to avoid trees as possible. The contractor shall walk the alignment of these swales and ditches in the field to verify avoidance of trees.
38. The depth of foundations and/or footings for buildings and walls adjacent to bio-retention areas shall be based on the excavated depth of the bio-retention area and not the planting surface elevation.

SITE UTILITY NOTES

1. Prior to the commencement of any construction or ordering any materials, the contractor shall field verify the exact horizontal and vertical location of all existing utilities at the point of all proposed connections. Report any discrepancies to the design engineer immediately.
2. The sanitary sewer line shall be PVC-SDR 35. The domestic water line shall be Type K copper. The public water line and the fire service line shall be class 52 ductile iron pipe.
3. Water meters shall be no deeper than 24" from the top of meter to proposed finished grade unless otherwise required by the local water department.
4. Prior to submitting his bid, the contractor will be solely responsible for contacting owners of all affected utilities in order to determine the extent to which utility relocations and/or adjustments will have upon the schedule of work for the project. While some work may be required around utility facilities that will remain in place, other utility facilities may need to be adjusted concurrently with the contractor's operations.
5. The contractor shall comply with all pertinent provisions of the manual of Accident Prevention and Construction issued by AGC of America.
6. Provide a minimum 36" of cover over all water lines unless required otherwise by the local water department.
7. All water lines, sewer lines, and appurtenances shall be of materials and construction that conform to the local water department/district's requirements and specifications.
8. Coordinate the exact location of all utilities entering the building with the plumbing plans.
9. Safeguard existing utilities from damage during construction of this project. In the event that special equipment is required to work over and around the utilities, the contractor will be required to furnish such equipment at no additional cost to the owner.
10. Reduced Pressure Backflow Preventer (RPBP) or dual check valves will be required on all test and fill lines (jumper) needed for water main construction and must be approved by the local water department/district.
11. All connections to existing manholes shall be by the coring and resilient seal method.
12. Before connections are made into existing utilities, the new lines are to be flushed and tested by the contractor in accordance with the local water department/district specifications.
13. The contractor shall adjust the alignment of the water lines (horizontally and/or vertically) to allow the required bracing at bends and tees.
14. The contractor shall provide all horizontal and vertical bends to attain the alignment indicated on the plans. Provide vertical bends where necessary to allow water lines to pass under or over other utility lines. (All bends and braces needed may not be actually shown). Provide bracing and/or rodding at all bends and tees as required by local utility department/district.
15. Contractor shall mark the location of all new PVC lines with #8 wire.
16. The location of existing utilities shown on these plans are approximate only. The contractor shall notify each individual utility owner of his plan of operation in the area of the utilities. Prior to commencing work, the contractor shall contact the utility owners and request them to properly locate their respective utility on the ground in the area of private utility lines. The contractor shall have an underground locator mark the location of the existing lines. This notification shall be given at least three (3) business days prior to commencement of operations around the utility.
17. Fire hydrant assemblies include the appropriate sized tee (with kicker), 6" line to hydrant, 6" gate valve (with valve box), and fire hydrant (with kicker). Hydrants shall be installed at locations within 7 feet of the curb, (minimum of 2 feet behind curb).
18. Where drainage or utility lines occur in proposed fill areas, the fill material shall be placed and compacted in accordance with the specifications and the Geotechnical Engineer recommendations prior to installation of drainage or utility lines. Fill is to be inspected by a professional Geotechnical Engineer testing firm employed by the owner. Results of the test shall be furnished to the owner's representative. Contractor shall pay for any retesting.
19. The contractor shall field verify the exact horizontal and vertical location of existing manholes, sanitary sewer lines, and water lines at the point of connection prior to the commencement of construction or ordering materials, report any discrepancies to the engineer immediately.
20. Repair existing pavement, curbs, walks, landscaping, etc. that are damaged by construction activities to a like new condition at no additional cost to the owner.
21. Sanitary sewer services shall be 6" diameter PVC (SDR 35) at a minimum slope of 1.0% unless shown otherwise on the drawings. Lines shall start 5' beyond the buildings. Coordinate connection points with the building plumbing drawings. Provide a minimum 30" of cover over all sewer services in grass areas and 48" of cover in paved areas.
22. Some utilities can be located by call the "Tennessee One Call" System, Inc. The contractor shall call "Tennessee One Call" (1-800-351-1111) 72 hours prior to proceeding with any excavation.
23. The concrete caps and encasements on water and sewer lines shall be a minimum of 6" thick. Use 3000 PSI concrete.
24. The contractor shall be responsible for coordinating the sequencing of construction for all utility lines so that water lines do not conflict with sanitary sewers, sanitary sewer services, storm sewers, or any other utility or structure, existing or proposed.
25. All trenches cut in existing roads or drives shall utilize a clean saw cut and shall be backfilled (100%) to final sub grade with #57 stone. Repair pavement in accordance with the local governing agency requirements.
26. Existing manholes located in fill/cut areas shall be adjusted to ensure that the top of casting is flush with the finished grade.
27. The contractor shall maintain 10 feet horizontal separation between sanitary sewer lines and water lines. Where these criteria cannot be met, the contractor shall maintain 18" vertical separation between water and sewer lines.
28. The fire line shall be installed by a sprinkler contractor licensed in the State of Tennessee. The fire line shall be flushed and tested in accordance with NFPA requirements.
29. The proposed gas line construction and installation shall be coordinated with the local gas by the contractor.
30. The proposed electric line construction and installation shall be coordinated with the local electric company by the contractor.
31. The proposed telephone line construction and installation shall be coordinated with the local telephone company by the contractor.
32. Siamese stand pipe to be galvanized steel.

ACCESSIBLE ROUTES NOTES

1. Ensure the running slope at the walks along the accessible route have a running slope of 1:20 or 5% maximum (except at the curb ramps, which can be up to 1:12 or 8.33%) and a cross slope of 1:48 or 2% maximum. This includes at the crossing of drive lanes (a common issue). Where the accessible routes intersect, there should be a 48' x 48' level "landing" that has a slope of 2% maximum in any direction.
2. Per the Public Rights-of-Way Guidelines published by the US Access Board, a walk within the Public Rights-of-Way may have a running slope of the adjacent street. The slope can be increased as needed to accommodate level areas required for intersecting accessible routes and site elements such as benches, trash cans and bike racks.
3. Ensure the maneuvering clearance at the exterior side of all entry doors have a slope of 1:48 or 2% maximum overall change in level at the thresholds.
4. Ensure a 30" x 48" clear floor space is provided adjacent to the exterior site elements such as the benches, trash cans and bike racks and have a slope of 1:48 or 2% maximum in any direction.

GENERAL LINETYPES

[EX. = EXISTING]

- **EX. FORCEMAIN** — FM —
- **EX. GAS** — G —
- **EX. OVERHEAD ELECTRIC** — OHE —
- **EX. UNDERGROUND ELECTRIC** — UGE —
- **EX. SANITARY SEWER** — SA —
- **EX. STORM SEWER** — ST —
- **EX. FIRE** — F —
- **EX. WATER** — W —
- **BOUNDARY**
- **LOT**
- **EASEMENT**
- **DITCH**
- **FENCE**
- **ROAD CENTERLINE**
- **WATER FEATURES**
- **FORCEMAIN** — FM —
- **GAS** — G —
- **OVERHEAD ELECTRIC** — OHE —
- **UNDERGROUND ELECTRIC** — UGE —
- **SANITARY SEWER** — SA —
- **STORM SEWER**
- **FIRE LINE** — F —
- **WATER** — W —

GENERAL SYMBOLS

- **CLEANOUT (TYP.)**
- **END OF SERVICE (TYP.)**
- **FIRE HYDRANT**
- **HANDICAP SPACE**
- **LOT NUMBER** 00
- **POWER POLE**
- **RETAINING WALL**
- **SANITARY MANHOLE**
- **SIGN (TYP.)**
- **STORM MANHOLE**
- **STORM AREA DRAIN**
- **STORM CURB INLET**

GENERAL PATTERNS

- **EXISTING BUILDING**
- **PROPOSED BUILDING**
- **HEAVY DUTY CONCRETE**
- **LIGHT DUTY CONCRETE**
- **HEAVY DUTY PAVEMENT**
- **LIGHT DUTY PAVEMENT**
- **PERVIOUS PAVEMENT**
- **PAVEMENT MILL AND REPLACE**
- **LANDSCAPE AREA**
- **GRASS**

GENERAL NOTES AND INDEX

16 April 2026

Schematic Design Set

Town of Nolensville **Police Headquarters**

CSDG architect WORKSHOP

EXISTING CONDITIONS NOTE

The existing condition information shown on this sheet was taken from a survey prepared by Southern Precision Land Surveying, INC., dated October 4, 2024. CSDG takes no responsibility for the correctness, accuracy, or completeness of this survey information.

F.E.M.A. NOTE

According to F.E.M.A. F.I.R.M. Map number 47187C0235G, effective date 02.16.2021, this site lies within Zone AE which is determined to be within the 100 year flood plain

PROJECT BENCHMARK:
DESC: MAG NAIL IN ASPHALT
ELEV: 601.52 (NAVD88)
NORTHING: 593080.21
EASTING: 1767154.77
TN STATE PLANE NAD83

SCALE: 1"=30'

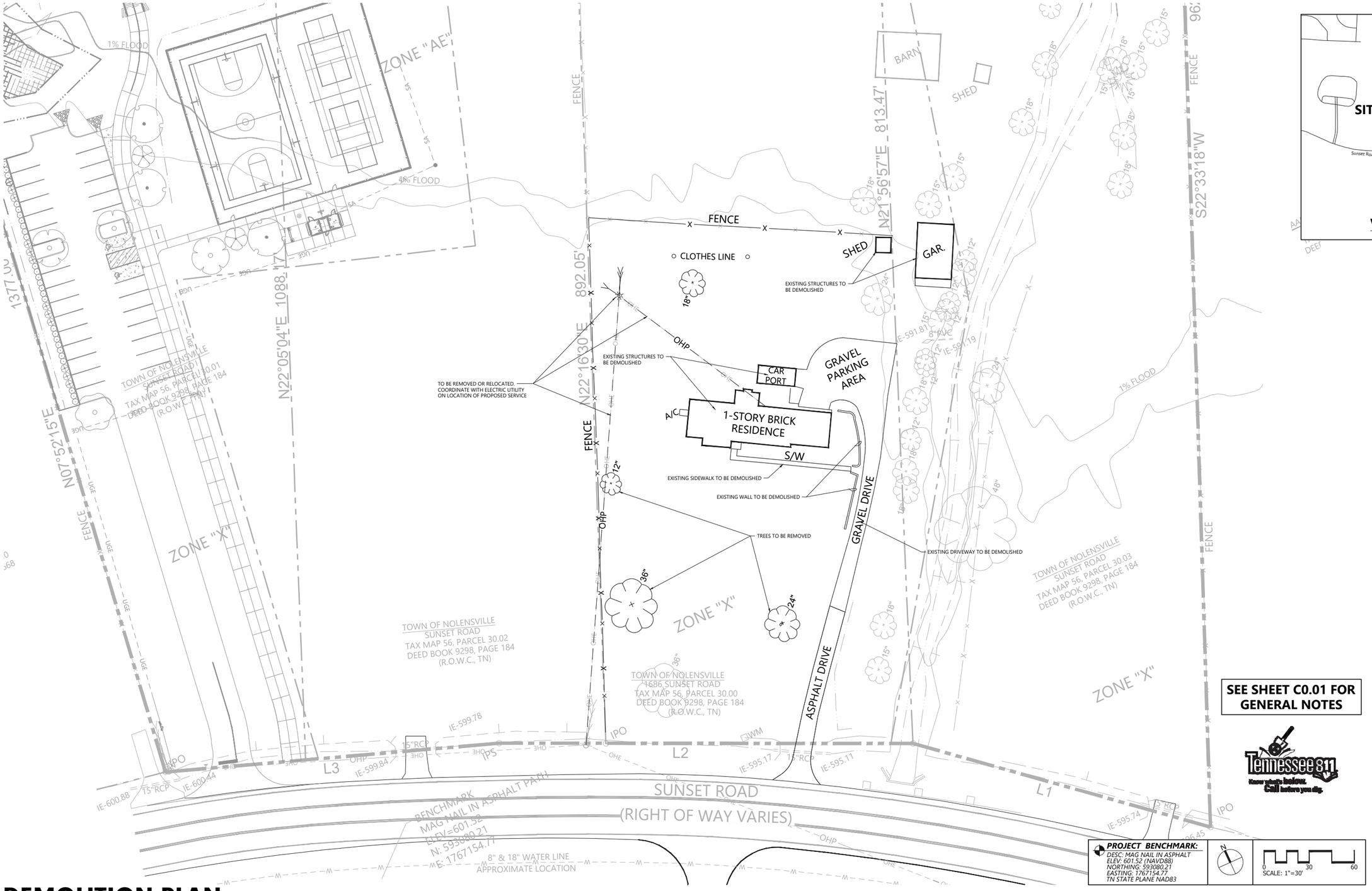
EXISTING CONDITIONS

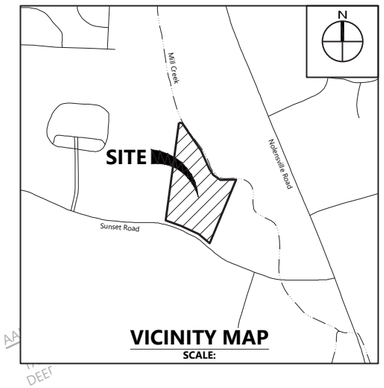
16 April 2026

Schematic Design Set

Town of Nolensville **Police Headquarters**

CSDG architect WORKSHOP





SEE SHEET C0.01 FOR GENERAL NOTES

Tennessee 811
Know what's below. Call before you dig.

PROJECT BENCHMARK:
DESC: MAG NAIL IN ASPHALT
ELEV: 601.52 (NAVD88)
NORTHING: 593080.21
EASTING: 1767154.77
TN STATE PLANE NAD83

SCALE: 1"=30'

DEMOLITION PLAN

16 April 2026

Schematic Design Set

Town of Nolensville **Police Headquarters**

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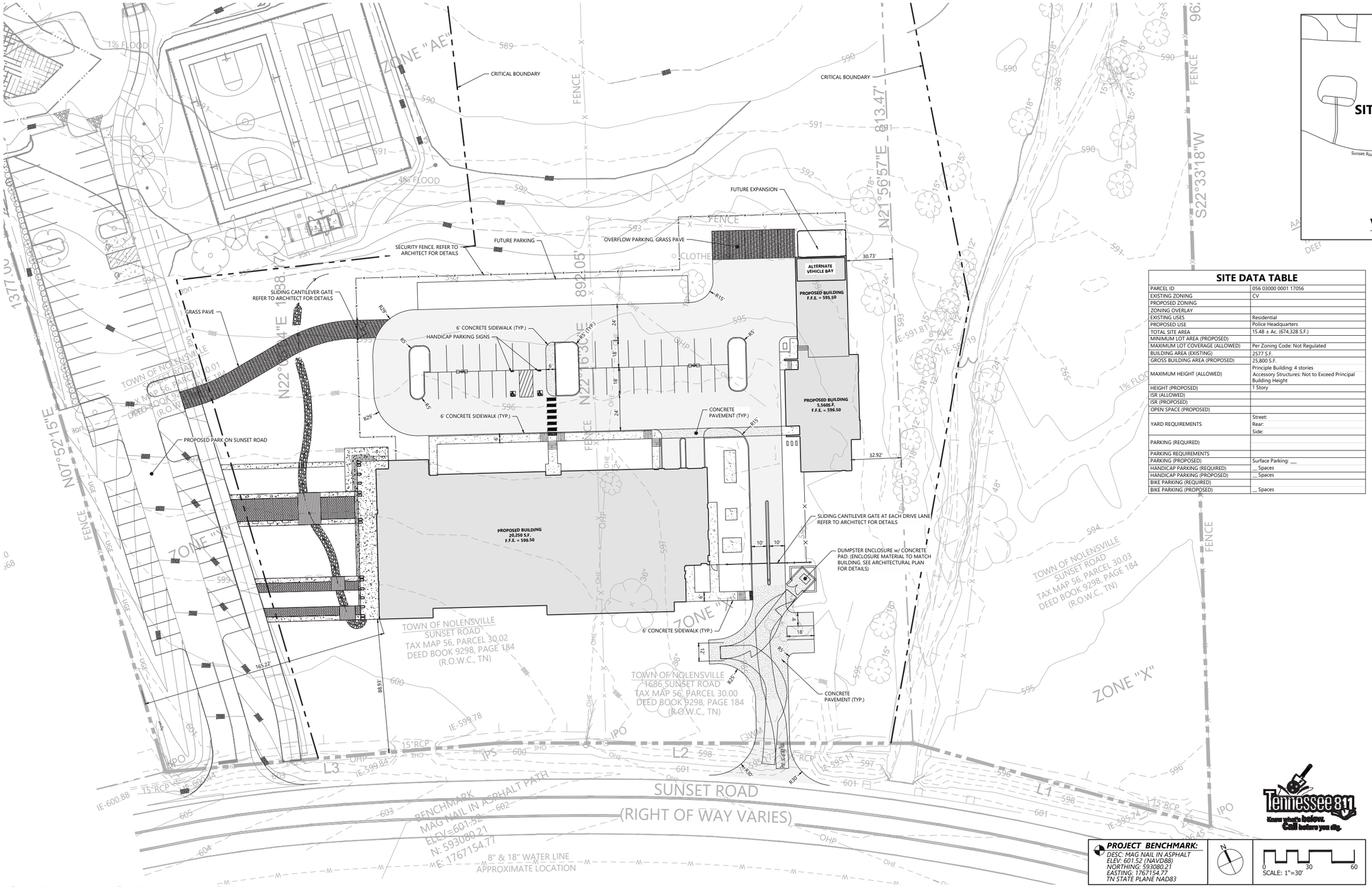

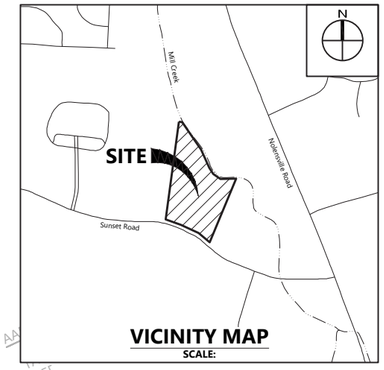

SITE DATA TABLE

PARCEL ID	056 03000 0001 17056
EXISTING ZONING	CV
PROPOSED ZONING	
ZONING OVERLAY	
EXISTING USES	Residential
PROPOSED USE	Police Headquarters
TOTAL SITE AREA	15.48 ± Ac. (674,328 S.F.)
MINIMUM LOT AREA (PROPOSED)	
MAXIMUM LOT COVERAGE (ALLOWED)	Per Zoning Code: Not Regulated
BUILDING AREA (EXISTING)	2577 S.F.
GROSS BUILDING AREA (PROPOSED)	25,800 S.F.
MAXIMUM HEIGHT (ALLOWED)	Principle Building: 4 stories Accessory Structures: Not to Exceed Principal Building Height
HEIGHT (PROPOSED)	1 Story
ISR (ALLOWED)	
ISR (PROPOSED)	
OPEN SPACE (PROPOSED)	
YARD REQUIREMENTS	Street: Rear: Side:
PARKING (REQUIRED)	
PARKING REQUIREMENTS	
PARKING (PROPOSED)	Surface Parking: ___
HANDICAP PARKING (REQUIRED)	__ Spaces
HANDICAP PARKING (PROPOSED)	__ Spaces
BIKE PARKING (REQUIRED)	
BIKE PARKING (PROPOSED)	__ Spaces

PROJECT BENCHMARK:
DESC: MAG NAIL IN ASPHALT
ELEV: 601.52 (NAVD88)
NORTHING: 593080.21
EASTING: 1767154.77
TN STATE PLANE NAD83

SCALE: 1"=30'

Tennessee 811 Know what's below. Call before you dig.

OVERALL SITE LAYOUT PLAN

16 April 2026

Schematic Design Set

Town of Nolensville **Police Headquarters**

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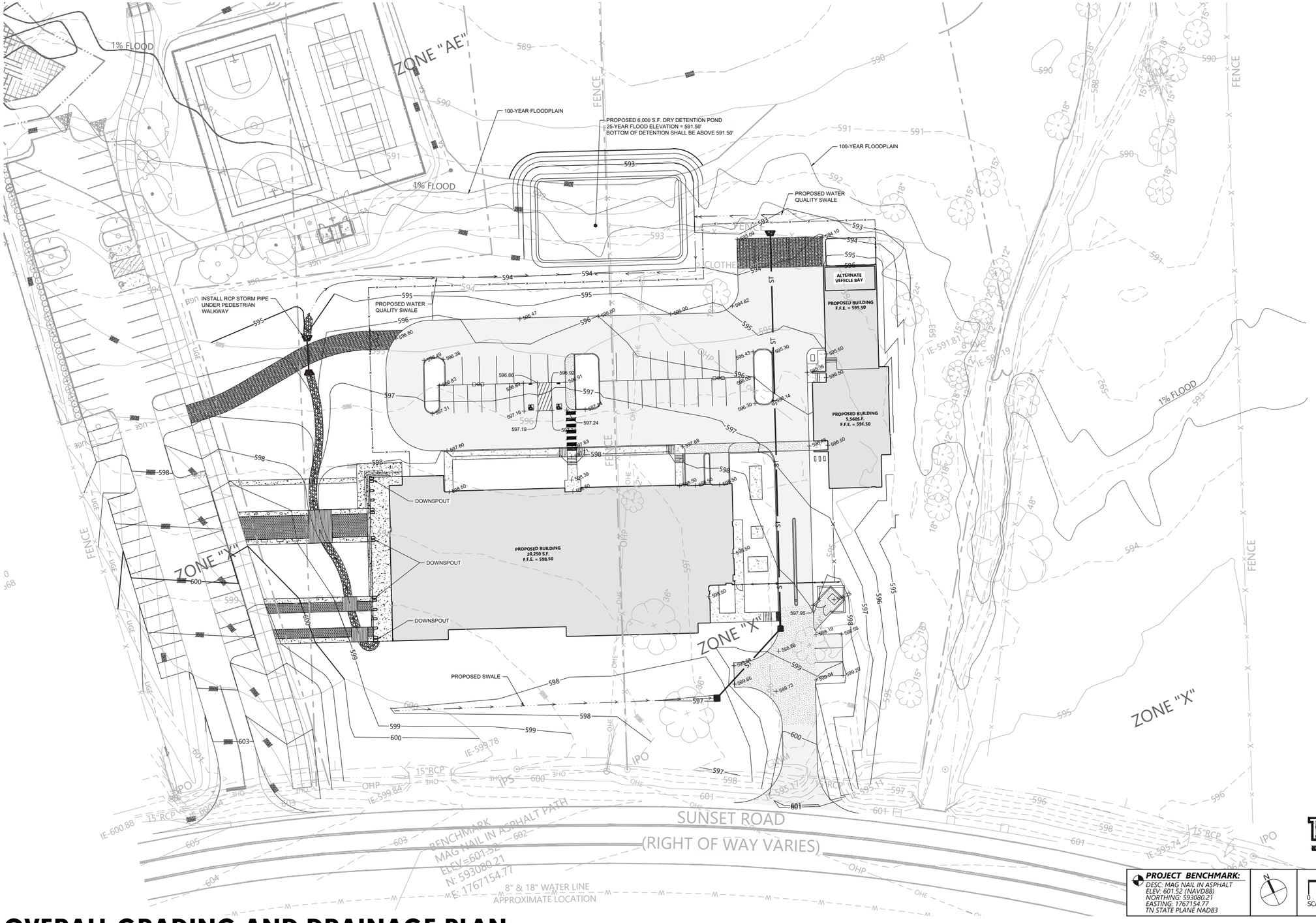
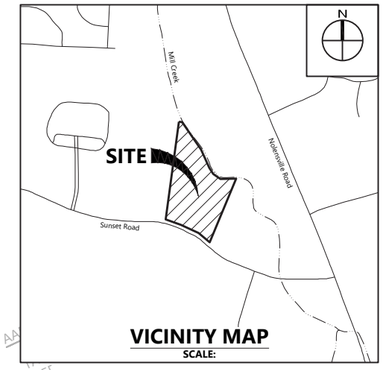




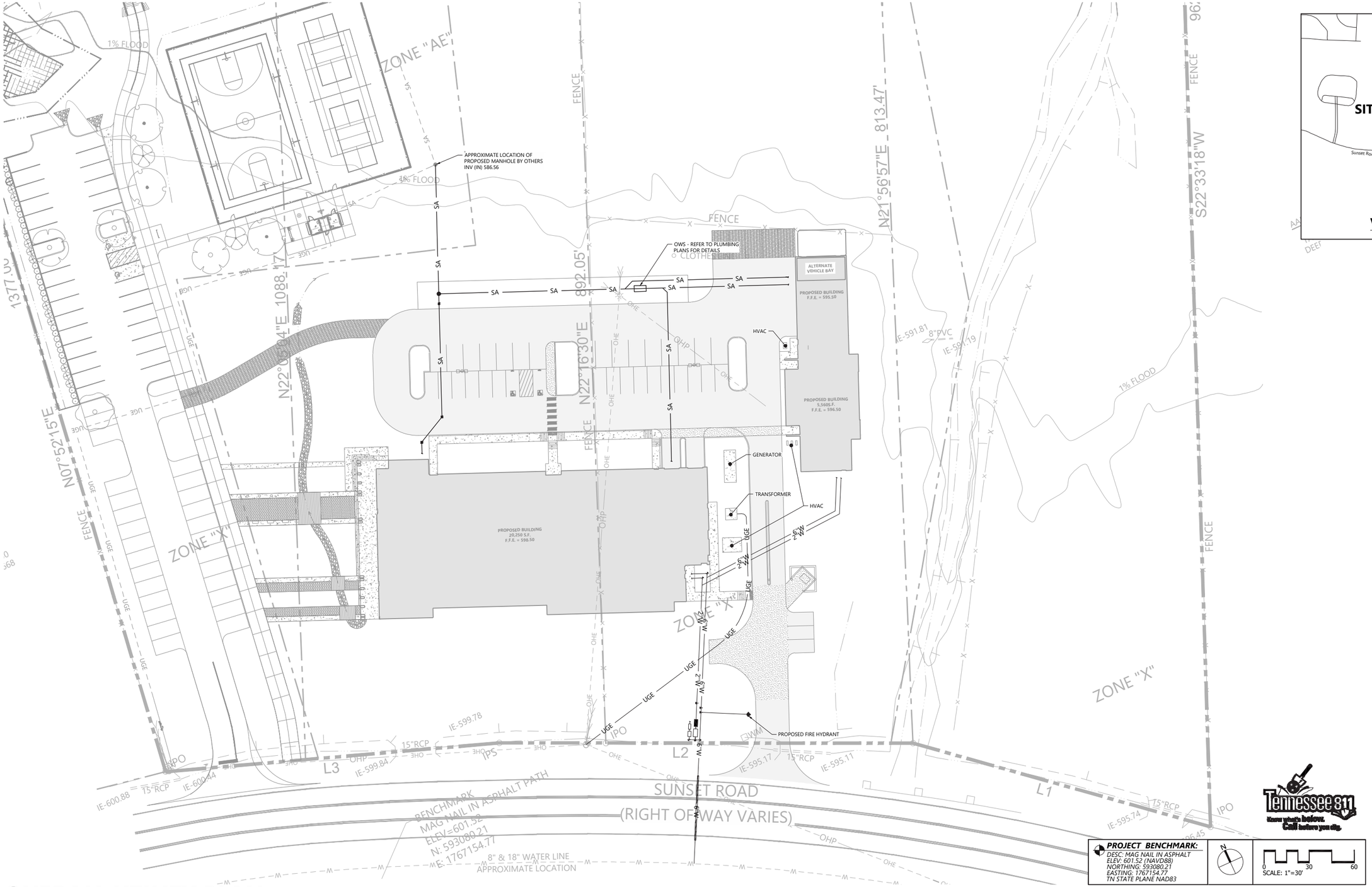
OVERALL GRADING AND DRAINAGE PLAN

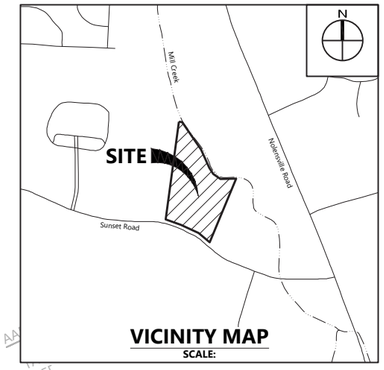
16 April 2026

Schematic Design Set

Town of Nolensville **Police Headquarters**

CSDG architect WORKSHOP





PROJECT BENCHMARK:
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EASTING: 1767154.77
TN STATE PLANE NAD83

SCALE: 1"=30'

Tennessee 811 Know what's below. Call before you dig.

OVERALL UTILITY PLAN

16 April 2026

Schematic Design Set

Town of Nolensville **Police Headquarters**

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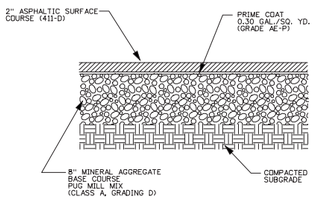
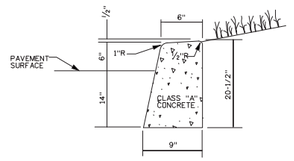


LIGHT DUTY PAVEMENT SECTION

N.T.S.



GENERAL NOTES:

1. EXPANSION JOINTS TO BE SPACED A MAXIMUM OF 100 FEET APART OR AS DIRECTED BY THE ENGINEER.

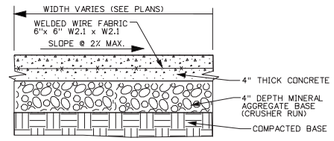
2. EXPANSION JOINTS WILL ALSO BE REQUIRED AT TANGENT POINTS, RAMPS, AND INLETS.

3. CONTRACTION JOINTS ARE TO BE CUT INTO CURB EVERY 10 FEET TO A DEPTH OF D/4, WHERE D EQUALS THE THICKNESS OF THE SECTION. THE SPACING OF 10 FEET MAY BE REDUCED AT CLOSURES BUT NO SECTION OF CURB SHALL BE LESS THAN 6 FEET.

4. USE 3500 P.S.I. CONCRETE.

POST CURB

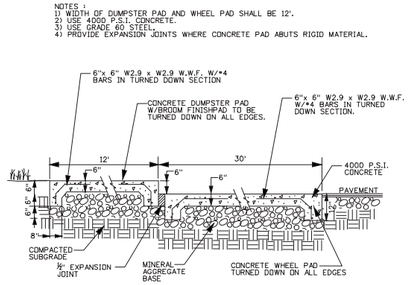
N.T.S.



NOTES:
CONCRETE: 3500 PSI
STEEL: GRADE 60
PROVIDE CONTROL JOINTS @ 5' CENTERS
PROVIDE EXPANSION JOINTS @ 25' CENTERS
SLOPE WALK IN DIRECTION OF POSITIVE DRAINAGE AT 2% MAX.

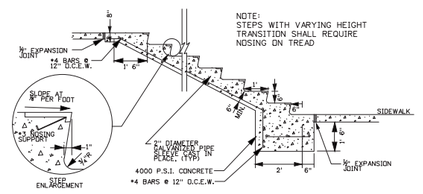
TYPICAL SIDEWALK

N.T.S.



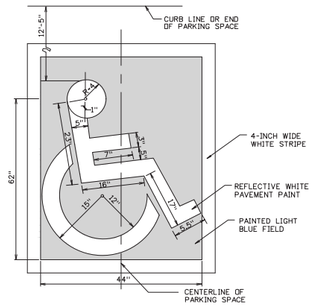
DUMPSTER PAD

N.T.S.



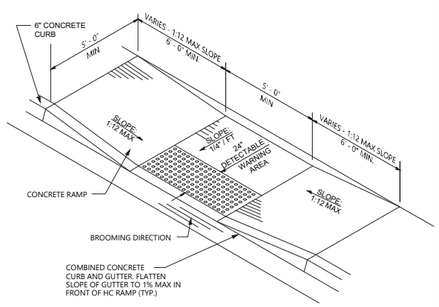
CONCRETE STAIRS

N.T.S.



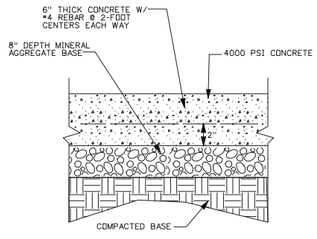
HANDICAP PARKING SYMBOL

N.T.S.



HANDICAP RAMP DETAIL

N.T.S.



CONCRETE: 4000 PSI
STEEL: GRADE 60
PROVIDE CONTROL JOINTS @ 10' CENTERS EACH WAY.
PROVIDE EXPANSION JOINTS WHERE CONCRETE ABUTS RIGID MATERIAL.

CONCRETE PAVEMENT SECTION

N.T.S.

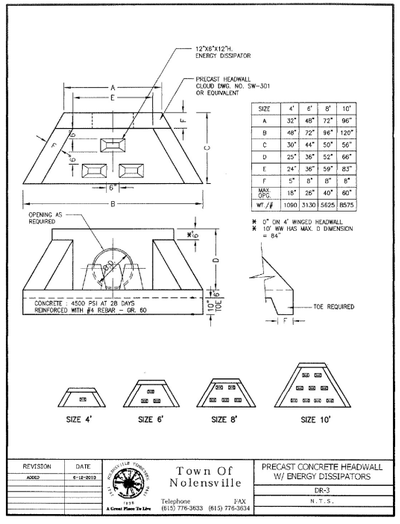
CIVIL DETAILS

16 April 2026

Schematic Design Set

Town of Nolensville **Police Headquarters**

CSDG architect WORKSHOP



SIZE	4'	6'	8'	10'
A	32"	48"	72"	96"
B	48"	72"	96"	120"
C	30"	44"	50"	56"
D	25"	36"	52"	66"
E	24"	36"	59"	83"
F	5"	8"	8"	8"
MAX OPC.	18"	28"	40"	60"
W* /#	1060	3130	5625	8575

* 0" ON 4' WINGED HEADWALL
* 10" WW HAS MAX. D DIMENSION = 64"

REVISION	DATE
ADDED	5-12-2023

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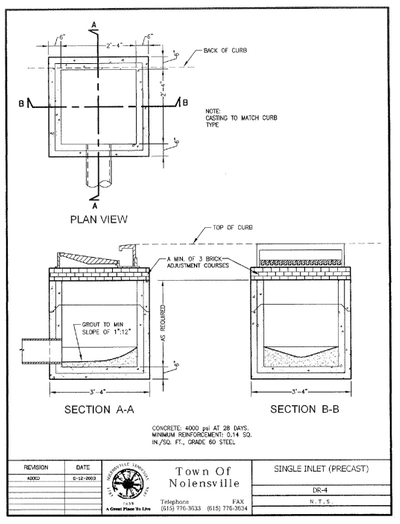
PRECAST CONCRETE HEADWALL W/ ENERGY DISSIPATORS
DR-3
N.T.S.



REVISION	DATE
ADDED	5-12-2023

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SINGLE INLET (PRECAST)
DR-4
N.T.S.

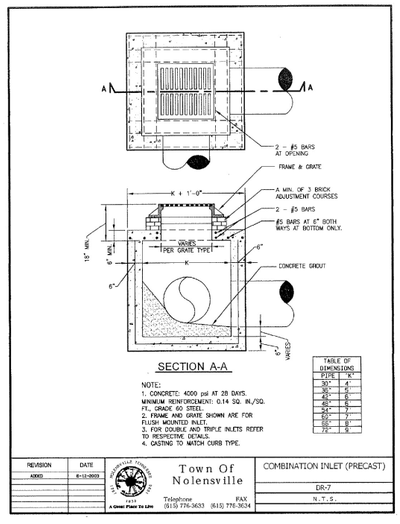

TABLE OF DIMENSIONS	
PIPE	K*
90°	4'
30°	5'
45°	6'
60°	6'
54"	7'
60"	7'
66"	8'
72"	8'

NOTE:
1. CONCRETE: 4000 psi AT 28 DAYS. MINIMUM REINFORCEMENT: 0.14 SQ. IN./SQ. FT., GRADE 60 STEEL.
2. FRAME AND GRATE SHOWN ARE FOR FLUSH MOUNTED INLET. FOR DOUBLE AND TRIPLE INLETS REFER TO RESPECTIVE DETAILS.
4. CASTING TO MATCH CURB TYPE.

REVISION	DATE
ADDED	5-12-2023

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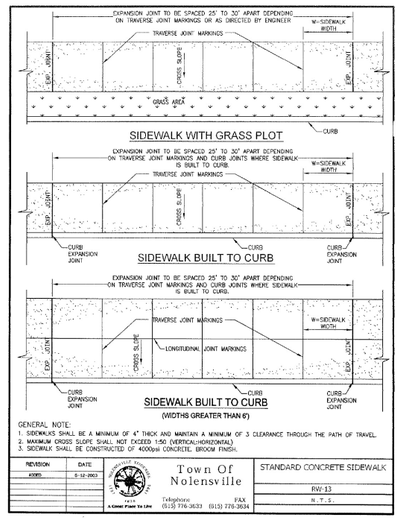
COMBINATION INLET (PRECAST)
DR-7
N.T.S.



GENERAL NOTE:
1. SIDEWALKS SHALL BE A MINIMUM OF 4" THICK AND MAINTAIN A MINIMUM OF 3 CLEARANCE THROUGH THE PATH OF TRAVEL.
2. MAXIMUM CROSS SLOPE SHALL NOT EXCEED 1:50 (VERTICAL:HORIZONTAL)
3. SIDEWALK SHALL BE CONSTRUCTED OF 4000psi CONCRETE, BROOM FINISH.

REVISION	DATE
ADDED	5-12-2023

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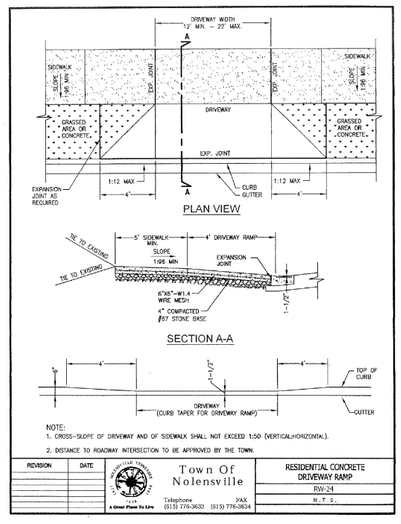
STANDARD CONCRETE SIDEWALK
RW-13
N.T.S.



NOTE:
1. CROSS-SLOPE OF DRIVEWAY AND OF SIDEWALK SHALL NOT EXCEED 1:50 (VERTICAL:HORIZONTAL).
2. DISTANCE TO ROADWAY INTERSECTION TO BE APPROVED BY THE TOWN.

REVISION	DATE
ADDED	5-12-2023

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RESIDENTIAL CONCRETE DRIVEWAY RAMP
RW-24
N.T.S.

CIVIL DETAILS

16 April 2026

Schematic Design Set

Town of Nolensville **Police Headquarters**

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Symbol Key

- 6-in metal stud bearing wall
- 6-in metal stud header (typical, interior locations depicted)
- HSS 6x6 steel tube column
- W16 steel beam
- Ballistic glazing. HSS 4x4x3/8 at each jamb. 4x4 steel angle counter support.
- 8" CMU bearing wall
- 8" CMU header
- Storm shelter enclosure. 8" CMU bearing wall with #5 at 16", grout solid. 7-1/2" composite slab above with #4 at 12" each way.
- W8x15 storm shelter roof support beam

Slab isolation joint with acoustic bond break under interior walls. Refer to narrative.

Headquarters Building Structural Diagram

Annex

16 Apr 2026

Schematic Design

Town of Nolensville **Police Headquarters**

5'-6" 16' 21'-4" 48'

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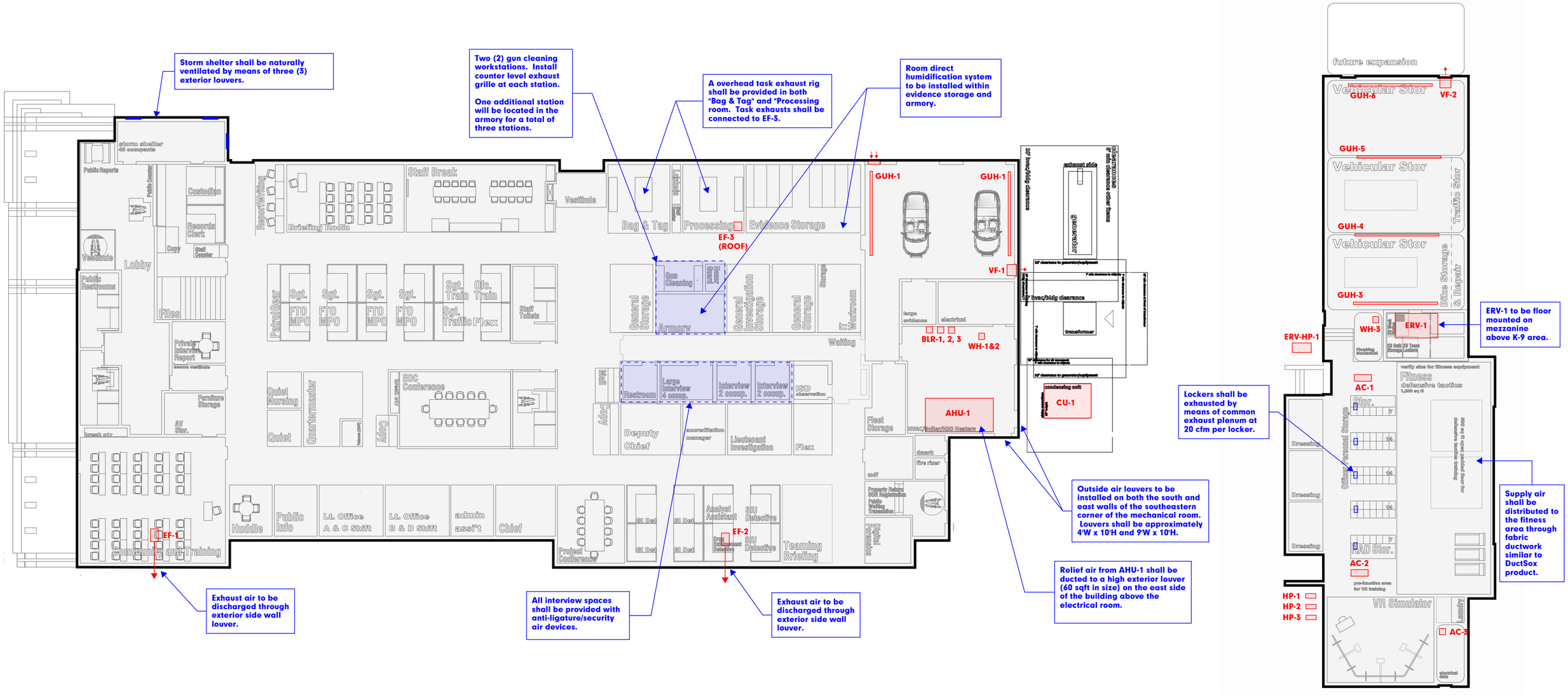

Mechanical Equipment Locations & Additional Notes

16 Apr 2026

Schematic Design

Town of Nolensville **Police Headquarters**

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Mechanical Zones Diagram

16 Apr 2026

Schematic Design

Town of Nolensville **Police Headquarters**

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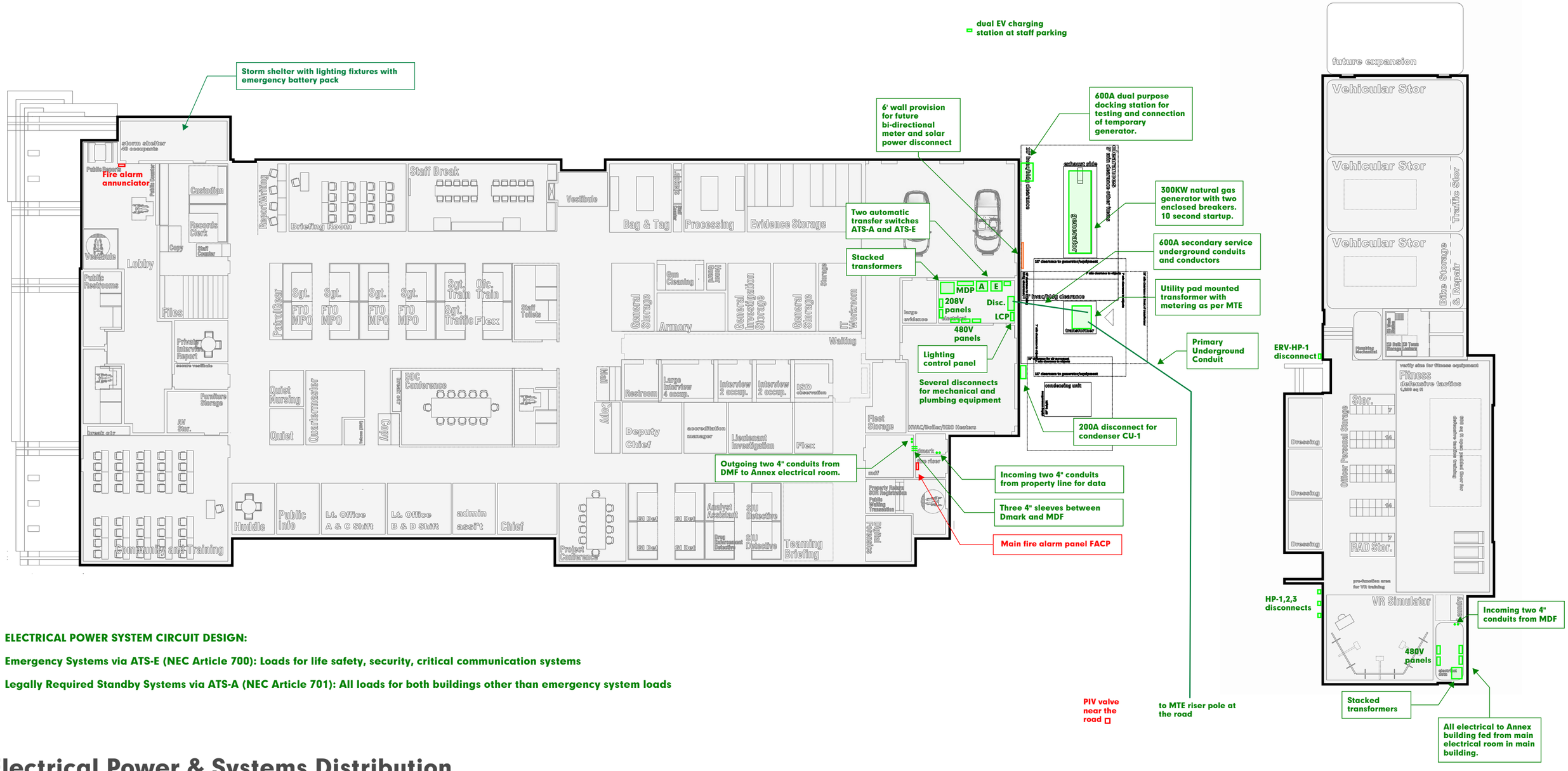

ELECTRICAL POWER SYSTEM CIRCUIT DESIGN:

Emergency Systems via ATS-E (NEC Article 700): Loads for life safety, security, critical communication systems

Legally Required Standby Systems via ATS-A (NEC Article 701): All loads for both buildings other than emergency system loads

Electrical Power & Systems Distribution

16 Apr 2026

Schematic Design

Town of Nolensville Police Headquarters

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Systems Narratives

16 Apr 2026

Schematic Design

Town of Nolensville Police Headquarters

architect WORKSHOP

Level I	Level II	Level III	notes
00 General Requirements	00 Gen'l. Conditions and OH&P	00000 General Conditions / Gen'l Requirements, OH & P	General Conditions to be determined by construction manager. Ballistic rating: Refer to Alternates. Alternates **Note: Estimates provided in Submittal for Construction Manager RFP shall <u>include pricing for Base Bids only</u>. Alternates are <u>not required</u> in RFP Submittal and are identified below for pricing analysis by Construction Manager during Preconstruction Services.** 01. Annex Vehicular Bays A. Base bid: Two (2) vehiclar bays. Reduce building length, foundation extents, and other amenities accordingly. B. Alternate: Three (3) vehiclar bays. 02. Ballistic Rating Level. A. Base bid: UL 752 Rating Level III. B. Alternate: UL 752 Rating Level IV. 03. Ballistic exterior windows: provide per-unit cost to provide individual ballistic windows in lieu of typical fixed windows at public-facing building elevation (staff areas only). A. Base bid: Unitized fixed windows. B. Alternate: Steel ballistic windows. 04. Wireless electric lock system in lieu of mechanical locks. A. Base bid: Manual keys and lock cylinders B. Alternate: Wireless electric lock system Note: Locations indicated to receive Access Control system integration are not modified by selection of alternate locking system. Refer to Door Hardware description for more information. 05. Vertical Plank Rainscreen Veneer A. Base bid: Single-skin metal panel siding. B. Alternate 01: Phenolic plank veneer. C. Alternate 02: Composite stone plank veneer. D. Alternate 03: Aluminum plank veneer. E. Alternate 04: Composite fiber plank veneer. 06. Site perimeter fence A. Base bid: Commercial picket fence B. Alternate: V-mesh wire fence 07. Site permeable paving - Refer to Civil for additional information A. Base bid: HDPE cellular paving with drainable fill. B. Alternate: Cellular concrete pavers with drainable fill. 08. Interior glazed office fronts. Refer to plan diagrams for locations. A. Base bid: Hollow metal framing B. Alternate A: Interior glazed aluminum storefront. C. Alternate B: Glazed demountable partition system. Note: Partitions denoted as "All-Glass Partitions" are excluded from consideration of alternates. 09. Sallyport finish floor A. Base bid: Exposed sealed concrete. B. Alternate A: Urethane resinous floor with integral cove base. 10. Acoustic roof deck treatment at areas with ceiling designated as "Exposed Structure." A. Base bid: Spray acoustic cellulose. B. Alternate: Acoustic wood fiber panel.

Level I	Level II	Level III	notes
		00000 General Conditions / Gen'l Requirements, OH & P	Allowances 01. Lighting: All allowances include material and delivery at Contractor's Net value excluding contractor's markup, taxes, and installation. A. Site lighting: $40,000 (includes bollards, front porch lighting/signage lighting, poles, wall packs). i. Refer to drawings for typical pole light base detail. Assume a quantity of 3. B. Interior - Main building (general): $ 155,000 C. Inteior - Main building - Sallyport: $6,000 D. Interior - Annex (general): $ 24,000 E. Interior - Annex - Vehicular Bays: $ 2,500 per vehicular bay. Refer to alternates for quantity of vehicular bays. 02. Concrete site bollards (excludes bollard lights): Contractor to provide allowance for bollards as detailed in Drawings. A. Annex vehicular bays: Assume a quantity of (4) at each overhead door opening. Refer to Alternates for number of vehicular bays. B. Main Building - Sallyport: Assume a quantity of 10. C. Site - Primary vehicular gate (east): Assume a quantity of 6. D. Site - Backup vehicular gate (west): Assume a quantity of 5. 03. Brick masonry veneer: Norman format (12-inch nominal length). $1,800 per 1,000 brick. Includes material and delivery of brick only. Excludes labor, taxes, or specified accessories. 05. Refer to section C1030 Fittings for equipment specifications and quantities. Contractor to provide allowances for: A. Laboratory Equipment B. Police Equipment C. Miscellaneous Equipment 06. Floor & wall finishes - Refer to drawings 07. Ceiling finishes - Refer to drawings 08. Signage: $140,000 (includes material and installation) A. Includes code-required interior & exterior signage. B. Includes branding artwork. 09. High-Density Mobile Shelving (Evidence & Records): Contractor shall coordinate work of concrete installation with installation requirements of Owner's mobile shelving vendor. Mobile shelving systems are provided under separate contract between Owner and vendor. 10. Furniture: Not in Contractor's scope. Work provided by direct contract between Owner and Vendor. 11. VR Training Simulator Eqpt: Not in Contractor's scope. Work provided by direct contract between Owner and Vendor. 12. Distributed Antenna Systems (includes Emergency Radio & Consumer Cellular DAS): Not in Contractor's scope. Work provided by direct contract between Owner and Vendor. 13. Fitness Equipment: Not in Contractor's scope. Work provided by direct contract between Owner and Vendor. 14. AV: Contractor to provide structured cabling as specified in Architectural & MEP Narratives. AV devices and furnishings are not in Contractor's scope. Work provided by direct contract between Owner and Vendor. 15. Interview Monitoring: Contractor to provide structured cabling as specified in Architectural & MEP Narratives. AV devices and furnishings are not in Contractor's scope. Work provided by direct contract between Owner and Vendor. 16. Insurance - Builder's Risk: Not in Contractor's costs. Will be procured directly by Owner.

Narrative - Architectural

16 Apr 2026

Schematic Design

Town of Nolensville Police Headquarters

architect WORKSHOP

Level I	Level II	Level III	notes
		00000 General Conditions / Gen'l Requirements, OH & P	Integrated mock-up wall 1. Exhibiting exterior wall, eave, window construction, color selections including mortar and sealants, and methods of sealing building from exterior conditions. Mock-up to include: A. Stud wall & sheathing with cut-through window opening (head, sill, and one jamb). B. Exterior WRB C. Exterior insulation D. Brick veneer and window sill as specified with associated mortar color selection(s). E. Typical exterior window framing and sealant at cut-through window opening. Omit window glazing. F. Roof assembly: Omitted 2. Conduct on-site preconstruction meeting for the purposes of confirming and coordinating aspects exhibited in mockup. Preconstruction meeting shall be attended by architect, jobsite superintendent, and the following installation trades: windows, sealants & weather-resistive barrier, roofing, and all exterior wall veneers. Contractor to complete product submittals and compatibility testing prior to pre-construction meeting. 3. Constructed as temporary stand-alone construction. Approximate size: 8 ft width x 8 ft height. Notify architect upon completion of all components except exterior veneer for observation of weather barrier system.
A Substructure	A10 Foundations	A1010 Standard Foundations	Concrete spread footings. Footing width shall accommodate full support of exterior masonry veneer where applicable. Refer to Structural. Geotechnical investigations and report have been procured by Owner and are available for reference.
		A1030 Slab on Grade	Compacted granular fill, refer to Structural. Depth not less than 4 inches. Vapor barrier: Polyethylene membrane, thickness as specified by Structural and not less than 15-mil. Tape all seams and penetrations. Concrete slab on grade: Refer to Structural for reinforcing and minimum compressive strength. 1. 4 inch minimum thickness unless noted otherwise. 6 inch minimum thickness at enclosed vehicular parking areas (Sallyport & Vehicular Bays in Annex). 2. Thickened slab at the following conditions: A. Interior CMU walls, interior bearing stud walls. B. Turn-downs at footings supporting bearing walls and columns. C. Surface-mount mobile shelving travelling rails (Records Files). D. Additional locations designated by Structural. 3. Slab recesses / depressions with thickened edges in the following conditions: A. Trench drains B. Recessed mobile shelving travelling rails (Evidence Storage). C. Shower floors, 2 inch depth. 4. Raised concrete curb at the following locations: A. Evidence locker base. 4-inch height, full width and depth of lockers. B. Duty locker base. 4-inch height, full width and depth of lockers. C. Exterior bearing walls of Vehicular area in Annex Building. 6-inch height, match bearing stud depth. 5. Acoustic slab isolation: A. Install cold joint in slab under walls of Simulator space. Isolate area of Simulator room slab from adjacent slabs using 1/2" closed-cell neoprene gasket equal to products by SoundAway. (https://www.soundaway.com/closed-cell-neoprene-gasket-1-2in-x-6in-x-25ft-p/13456.htm)

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B Shell	B10 Superstructure	B1010 Floor Construction	Mechanical mezzanine above Annex K9 area. 1. Refer to Structural for platform requirements. 2. Refer to ceilings for acoustic separation between equipment and K9 area. Elevated floors: None in project scope.
		B1020 Roof Construction	Roof (Main Building): Engineered metal stud trusses with steel roof deck. Refer to Structural for more information. Refer to Roof Coverings for finish roofing, insulation, and other accessories. Roof (Annex Building): Match main building.
		B1099 Miscellaneous Structural	Provide additional structural steel framing at the following conditions: 1. Support framing below ballistic transaction windows (Public Lobby and Property Return). 2. Bracing at stud headers where an opening below exceeds 6 feet width. 3. Suspended masonry header support where loose lintels are not feasible, including unsupported / glazed corners and where loose lintel span limitations would be exceeded.
	B20 Exterior Enclosure	B2010 Exterior Walls	Wall Components (typical): 1. Structure: A. Metal stud framing at 16 inches o.c., 6-inch stud depth. Stud gauge as determined by the most stringent requirements of Structural documents, exterior veneer anchoring systems, and not less than 18-ga (43-mil). All stud walls feature exterior gypsum sheathing, interior gypsum wall board, and cavity insulation. B. CMU wall backing, 8x8x16 nominal units. Galvanized ladder joint reinforcing. Refer to structural for additional information including cell grouting and reinforcing. 2. Exterior gypsum sheathing (at stud wall structure only) with fiberglass mat facing, 5/8" thickness. Acceptable manufacturers: Georgia-Pacific (GP), US Gypsum (USG), and Gold Bond Building Products. 3. Cavity insulation (at stud wall structure only): mineral wool batt insulation between stud framing, R13 minimum. Provide 2lb closed-cell SPF where access does not permit installation of batt. 4. Exterior WRB: fluid-applied membrane air barrier equal to Henry 17MR with manufacturer's recommended tapes, primers, sealants, mastics, and liquid flashing. 5. Exterior continuous insulation is rigid mineral wool board equal to Rockwool Comfortboard 80 with R-7.5 minimum thermal resistance (2 inch thickness). 6. Exterior veneer systems. Refer to elevations for locations & extents. A. Face brick veneer i. Face brick grade FBX minimum, (2) brick colors, Norman format. Refer to allowances. Preformed brick profiles as required, including lipped brick at all lintel supports. Custom mortar color. ii. Anchorage: Adjustable double eye-and-pintle veneer anchor with two legs and insulation washer. At stud walls, provide thermally broken back plate equal to Thermal HB-213. At CMU walls, provide ladder-style joint reinforcing with integral eyelet legs equal to HB 270-2X. Pintles to be equal to HB 2X-Hook. iii. Membrane flashing: Composite self-adhered flashing membrane with stainless steel surface equal to HB Mighty-Flash SA. Include fabricated end-dams. Secure to backing wall with termination bars, sealant at top edge. Provide stainless steel drip edge, mesh mortar collection screen, and cellular PVC weeps at all flashing outlets. B. Cast stone belt course and site wall caps i. Provide cast stone sills at all windows in walls with face brick veneer. 3 inch unit height, project 1 inch beyond wall veneer, include drip on bottom surface.

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			ii. Provide case stone wall caps at all walls featuring a stone veneer and at masonry site walls which do not extend to building roof level. 2-1/4" minimum thickness at edges, projecting 1 inch proud of wall finish with drip in bottom surface. Top surface slopes to shed water. Secure to wall using stainless steel anchors approved by manufacturer with stainless steel through-wall flashing full wall depth.
	B20 Exterior Enclosure	B2010 Exterior Walls	iii. Cast stone units by manufacturer with certified membership in Cast Stone Institute and complying with ASTM C1364. 6500-psi minimum compressive strength, fine-grain texture on all exposed surfaces. 2 inch minimum thickness. Refer to Drawings for panel configurations. Quirck miter exposed corners. Custom mortar color. v. Flashing: Stainless steel sheet metal flashing meeting SMACNA recommendations. Secure to backing wall using stainless steel termination bar, seal top edge. C. Vertical plank rainscreen veneer i. Exterior girt framing: Pultruded FRP girt framing equal to Strongirt. Depth to suit exterior insulation thickness, spacing to suit exterior veneer spans. Install horizontally over specified WRB and secure to stud / CMU backing wall with manufacturer's recommended fasteners. ii. Exterior veneer (refer to Alternates). a. Single-skin metal siding equal to Pac-Clad Flush Panel, vertical orientation. 7-inch panel width, 22-ga steel with two-coat PVDF finish. Up to (5) colors from manufacturer's standard options in random pattern distribution as depicted in elevations. Include matching trim and closure profiles. Secure directly to girt framing using manufacturer's recommended concealed fasteners. b. Phenolic plank veneer equal to Trespa Pura NFC, up to (5) colors from manufacturer's standard options. Secure to secondary ventilated rails equal to Knight Wall Systems KWS Panelrail, maintain 1-inch minimum ventilation clearance behind veneer. c. Composite stone veneer equal to Omnis Steni, up to (5) colors from manufacturer's standard options. Secure to secondary ventilated rails equal to Knight Wall Systems KWS Panelrail in black PVDF finish, maintain 1-inch minimum ventilation clearance behind veneer. d. Aluminum plank veneer equal to Longboard T&G Cladding, 6-inch channel profile with manufacturer's recommended trim and acessories. Up to (5) colors selected from manufacturer's standard options. Secure directly to girts using manufacturer's recommended concealed clip anchors. e. Composite fiber plank veneer equal to Modern-Mill Acre, 6-inch shiplap profile. Secure to girt framing over ventilation spacer equal to Core-A-Vent SturdiBatten using Kortex screws and matching plugs. Stain-finish prior to installation with manufacturer's approved UV-reflective product, up to (5) colors to be selected.
			Joint sealants: Exterior wall sealants for the purpose of air and moisture control shall be silicone or STPE. Contractor to provide written statements by sealant manufacturer confirming sealant compatibility with each applicable substrate in project. Color to be selected from manufacturer's standard options.
			Refer to General Requirements for integrated mock-up wall requirements.
		B2020 Exterior Windows	Unitized windows (typical at exterior glazing without entry doors) 1. Fixed windows equal to Quaker C600 with beveled profile glazing stops and nailing fin profile. Opaque PVDF finish, color to be selected from manufacturer's standard options. 2. Installation: Provide low-expansion SPF insulation at shim space all sides. Seal nailing flange to wall WRB per manufacturer's recommendations using compatible detail flashing tape or coating. 2. Glazing: Insulated non-ballistic glazing units described separately. Equivalent products by Cardinal Glass are acceptable.
			Steel Ballistic Windows (refer to Alternates) 1. Glazing, framing, and all accessories equal to products by Norshield. Refer to narrative general requirements for ballistic level. 2. Finish & glazing tint to match typical exterior windows. 3. Coordinate with stud framing designer as required to ensure adequate support provided at all locations.
			Glazing (non-ballistic): 1-inch insulated glazing unit equal to products available from Guardian Glass. Inboard and outboard lites are 1/4-inch heat-strengthened float glass. Low-E coating on surface #2. Dried airspace, 100% argon, black spacer. Type A (Lobby): A. Outer lite: Acid-etched sputter-coated green float glass. i. Acid-etch equal to Guardian Bird1st Etch 17 on #1 surface. ii. Sunguard SNX 60+ low-E coating on #2 surface. B. Inner lite: Clear glass. C. Visible light transmittance: 62% D. Reflectance: 11% E: SHGC: 0.26 F. Shading coefficient: 0.3 G: U-value (winter): 0.234

Level I	Level II	Level III	notes
		B2020 Exterior Windows	Type B (general use, south & west elevations): A. Outer lite: Acid-etched sputter-coated green float glass. i. Acid-etch equal to Guardian Bird1st Etch 17 on #1 surface. ii. Sunguard SNR43+ low-E coating on #2 surface. B. Inner lite: Clear glass. C. Visible light transmittance: 43% D. Reflectance: 28% out / 14% in E: SHGC: 0.23 F. Shading coefficient: 0.26 G: U-value (winter): 0.283 Type C (general use, north & east elevations): A. Outer lite: Acid-etched sputter-coated green float glass. i. Acid-etch equal to Guardian Bird1st Etch 17 on #1 surface. ii. Sunguard SN68 low-E coating on #2 surface. B. Inner lite: Clear glass. C. Visible light transmittance: 68% D. Reflectance: 11% out / 12% in E: SHGC: 0.38 F. Shading coefficient: 0.43 G: U-value (winter): 0.288
			Sealants: All wall openings for aluminum window and entry framing feature (2) beads of backer rod and sealant for weather protection at the backing wall and (1) additional bead at exterior finish veneer.
		B2030 Exterior Doors	All door leafs are 3'-0" x 8'-0" unless noted otherwise.
			Glazed swinging doors for public & staff use (excludes telescoping entries at Staff Vestibule): A. Reinforced aluminum entry equal to Special-Lite SL-14 Medium Stile Monumental Aluminum Door. 10-inch base rail height. Continuous hinge. Black anodized finish. B. Framing: Glazed aluminum window wall equal to Tubelite 900RW T, 6" depth and thermally broken, fully captured glazing. Include manufacturer's preformed type-I sill pan, thermally-broken with sealed end-dams. Framing finish to match typical unitized window frame. C. At public entry from exterior to Lobby Vestibule: 3'-6" x 9'-10" door leaf. Provide motorized power-assist operator and related accessories certified by BHMA to meet ANSI A117.1 and A156.19 requirements. Unit shall meet UL, cUL, UL10C and UL10B standards. Design basis Norton Door Controls 6060 Series Operator. D. Site-glazed to match specifications provided for Exterior Windows.
			Telescoping staff entry (Staff Vestibule, interior and exterior): Equal to Stanley Duraglide 5300, 3-panel entry with full breakout. Insulated glazing to match adjacent windows. Motion sensor activation egress (both locations), motion sensor ingress (interior location), and access control integration for ingress at exterior location.
			Flush doors at entry to utility and service spaces: Steel doors & frames (excludes glazed aluminum entries, refer to Drawings for locations): SDI Grade III minimum, A60 galvannealed coating, paint finish. A. Insulated steel door, SDI A250.8 Level 3 (16-ga) minimum, Model 2 (seamless, filled), 1-3/4 inch thickness. Galvannealed A60 coating, paint finish in field. Inverted channel at top edge. B. Hollow metal frame equal to FT series, fully welded, 14-ga minimum. Galvannealed A60 coating, paint finish in field. Insulate frame void with 2-lb closed cell SPF. C. Continuous geared hinges. Accessible threshold set in continuous sealant.
			Public entry - Lobby Vestibule to Lobby: Refer to Interior Doors for frameless glass entry system.
			Storm rated doors: steel-stiffenced door with fiberglass fill meeting ICC 500 equal to Steelcraft Paladin PW14 with FP14 hollow metal frame. A60 galvannealed steel, paint finish. Provide storm-rated hardware. Note: storm shelter is not mechanically cooled. As such, interior storm shelter door does not require rain protection but must be insulated.
			Storm rated rescue hatch: steel-stiffenced door meeting ICC 500 equal to VaultPro Elite Pro Wall Hatch. In-swinging gasketed operation.
			Overhead Vehicular Doors (Insulated): Equal to Cornell Thermiser Door ESD20. Galvanized with powder coat finish. Insulated vision window lites. 100,000 cycle warranty. Motor operator. Hood & operator covers. 12 ft x 12 ft clear opening, door width to be 8 inches wider than masonry opening where installed at walls with exterior brick veneer. Safety features per UL325 including photo-eye entrapment device. Integrate with access control devices for entry and exit.
		B2040 Exterior Soffits	Public entry (exterior of Public Lobby): Match vertical plank rainscreen veneer. Refer to Alternates.

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	B30 Roofing	B3010 Roof Coverings	Standing seam metal roof assembly: Total roof insulation shall be R-30 minimum installed above roof deck composed of two layers of insulation, secure to deck with staggered seams. Refer to Roof Construction for description of roof framing and steel roof deck. 1. Roof insulation base layer: Felt-faced polyisocyanurate board equal to Pac-Clad PacShield Coated Glass. Thickness as required to achieve total system R-value specified above. 2. Insulated nail base: Ventilated and insulated nail base equal to Pac-Clad Pac-Shield CV. 5-inch composite thickness composed of: A. 2-1/2 inches polyisocyanurate insulation board. B. 1 inch open ventilation depth. A. 3/4" OSB wood sheathing. 3. Self-adhered roofing underlayment as recommended by manufacturer equal to Pac-Clad HT. 4. Standing seam metal roof: Architectural standing seam metal roof equal to Pac-Clad Snap-Clad. 22-ga steel, 16-inch panel width with pencil ribs, color to be selected from manufacturer's standard range. Secure to roof deck with manufacturer's recommended bearing plates over insulation and underlayment. 5. Ventilated fascia equal to Metal-Era Hi-Perf Vented Fascia. Color to be selected from manufacturer's standard range. Provide PT wood blocking as required. 6. Entirety of roof system including all products, accessories, and installation to be covered under a single Total System NDL warranty against material or workmanship failure for a period not less than 30 years. System to meet ANSI/SPRI ES-1.
C Interiors	C10 Interior Construction	C1010 Partitions	Refer to Drawings for additional requirements at interior walls. Stud walls 1. Typical: 3-5/8" metal stud framing, G40 galvanized coating, gauge as recommended by manufacturer to suit wall height and finish. Refer to drawings for variations to suit acoustic, ballistic, and fire rating requirements. Double stud walls typical at restroom wet walls. 2. Sheathing: 5/8" type "X" gypsum board, multiple layers as required for acoustic or fire rating requirements. Provide MMR, AR, and IR sheathing as required. A. Provide mud-in metal drywall closure equal to EZConcept EzyReveal at jambs and headers of aluminum-framed windows and entries (interior and exterior walls). B. Provide mud-in metal wall caps equal to EZConcept EzyCap where walls with drywall sheathing end without abutting another wall and where drywall openings do not include casing or framing. 3. Acoustic walls: Acoustic sealant, 3-1/2 inch acoustic batt cavity insulation, and resilient stud furring as required for acoustic performance, refer to Drawings. All acoustic walls sealed to deck / structure above. 4. Ballistic: Provide ballistic fiberglass sheathing equal to products by Armortex. Secure to stud framing behind GWB on threat-side of wall. Ballistic sheathing to extend full height to structure above. Refer to narrative general requirements for ballistic protection level. 5. Fire resistive stud wall : Refer to Drawings for assembly. Fire caulk seal all edges and penetrations. 6. Security mesh at Evidence Storage and Large Evidence: all perimeter stud walls include raised metal security mesh equal to Clark Dietrich BM15, 16-ga, 1-1/2 inch diamond pattern. Secure to stud framing using manufacturer's recommended clip plate and fastener behind GWB. Comparable product by USG acceptable. 7. Telecom wall sheathing: Provide 3/4 inch fire-retardant treated plywood wall sheathing at all rooms identified as IDF / IT / Data / Demarcation / Telecom for the purpose of supporting wall-mounted equipment, 8 ft panel height installed immediately above wall base. 8. Corner guards to be installed on all exposed wall corners which do not feature wainscot wall protection. Provide flush FRP corner guards equal to Acrovyn FS-20N. Extend continuously full height of wall to finish ceiling. Provide aluminum cover to height of adjacent wall base and FRP cover above. CMU walls: Reinforced CMU, refer to Structural for bracing and reinforcing requirements. Install 5/8" gypsum board sheathing on 7/8" metal furring at areas not designated as exposed CMU finish. Paint finish exposed CMU surfaces where GWB sheathing is not used.

Level I	Level II	Level III	notes
		C1020 Interior Doors	Refer to Drawings for locations and sizes. All door leafs are 3 ft x 8 ft unless noted otherwise. Wood doors 1. Architectural grade with solid core, 5-ply minimum with crossband. 1-3/4 inch thickness. 2. Wood door face veneer A. High-pressure decorative laminates, HGS grade, where designated for plastic laminate. 3. Wood door core A. Particle core typical unless noted otherwise, including doors with fire resistance rating does not exceed 45 miniutes. B. Mineral core where fire resistance rating exceeds 45 minutes. C. Structural composite lumber core where door features full lite with STC up to 30 and fire rating does not exceed 20 minutes. D. Composite sound core where required for STC rating up to 49 and fire resistance rating does not exceed 45 minutes. D. Glazing stops: profile to be selected from manufacturer's full range. 4. Hardware and interior hollow metal frame as described separately. Steel doors 1. STC rating up to 35 A. Flush steel door equal to Steelcraft L series. SDI Level 3 (16-ga) minimum, Model 1 (full flush), 1-3/4 inch thickness. Cold-rolled steel with manufacturer's primer coating, paint finish in field. B. Door core: manufacturer's standard honeycomb or equivalent. 2. Abuse-resistant door (Sallyport, Interview Corridor, Evidence Processing, Evidence Storage) A. Steel stiffened flush door equal to Steelcraft BF-series. SDI Level 4 (16-ga) minimum, Model 1 (full flush), 1-3/4 inch thickness. Cold-rolled steel with manufacturer's primer coating, paint finish in field. B. Door core: 20-ga vertical stiffening webs at 6 inch spacing. Fiberglass batt fill all internal voids. 3. STC rating between 35 and 40: Match abuse-resistant door with the following modifications A. SDI Level 3 (16-ga minimum). 4. Ballistic doors (Secure Vestibule at Lobby, Property Return at transaction window) A. Flush steel door with hollow metal frame equal to products by Krieger Specialty Products. Include neoprene sponge sill gasket and perimeter acoustic seal kit at frame soffit. Plastic laminate finish. Hardware includes low-energy operator equal to Dormakaba ED250. 6. Storm-rated doors (storm shelter enclosures): refer to exterior doors. 7. Hardware and interior hollow metal frames not specified with door descriptions as described separately. Interior hollow metal frames: 1. SDI Level 3 (14-ga) minimum, fully welded. Cold-rolled steel with manufacturer's primer coating, paint finish in field. A. Grouted frames shall be avoided unless required for storm- or fire-resistive purposes. Frames required to be grouted shall feature a bituminous coating on all surfaces in contact with grout. Seal all potential points of grout leakage and prevent grout from contacting uncoated door hardware, wall sheathing, and finishes. Grout shall be hand-troweled using a mix with 4 inch maximum slump. Pumped grout will not be accepted. B. Frames in acoustic walls: fill voids using acoustic fiberglass batt insulation. Interior glazed aluminum framing (refer to Alternates) 1. Equal to Tubelite Int45 aluminum framing. A. Wood / steel doors as described separately. B. Frames in acoustic walls: fill voids using acoustic fiberglass batt insulation. C. Finish: Factory-finished ppaque black PVDF or powdercoat. D. Include post-drywall perimeter trim. Glazed Demountable Parition System: 1. Glazed demountable partition system provided under separate contract by Owner's selected vendor. Deduct value of glazed office fronts, entry doors, and door hardware from contract value. 2. Contractor to wrap exposed wall ends with gypsum wall board.

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		C1020 Interior Doors	Interior All-Glass Partition (Conference Room, Briefing Room, Bag & Tag). 8-ft minimum height unless noted otherwise. 1. Clear laminated glass door and sidelites, (2) layers of 6mm clear tempered float glass with 0.03" clear SentryGlas interlayer. Flat polished edges and 3-inch radius corners. 2. Hardware equal to products by DormaKabba. A. 4-1/2" sidelight header with glazing pocket and end caps secured to stud wall header above. B. 3-5/8" tapered bottom sidelite rail secured to slab. C. Door hardware including 8852 floor pivot, 4-1/2" door header with RTS88 concealed closer, and 3-5/8" tapered top door rail with 8836 arm. Provide patch hardware equal to CML9070 lock and compatible strike housing. D. Permanent lock cores by project's door hardware provider.
			Door hardware 1. All hardware shall comply with most stringent quality grade of applicable ANSI / BHMA A156 standards. 2. All construction and permanent cores shall match Owner's establish format, finish to match hardware trim. Include cylinder guards, trim rings, and springs as recommender by manufacturer for installation. Provide cores with restricted keyway having 2-digit zip code geographic exclusivity. 3. Furnish keys for permanent cores including (1) Top Master Key, (4) of each Master Key, (2) Change Keys per cylinder up to (10) per change key, and (2) Control Keys for permanent cores. 4. Install key cabinet equal to products by MMF Industries with a capacity that accommodates 15 more keys than the number of keysets. 5. Hardware to be electrified at doors indicated for integration with Access Control system. Refer to Drawings for locations. A. Provide integral RX and DPS functions. 6. Refer to Drawings for hardware functions and additional information. Coordinate hardware pricing with Architect. 7. Provide alternate pricing for wireless electric lock system: Wireless commercial-grade keyless locksets equal to Medeco Cliq. Mortise cylinders (1 per door), cut keys (2 per door plus 20), (1) C-key, (1) local programming. A. Vendor contact: Kenny Zimmer / Assa Abloy / Kenneth.Zimmer@assaabloy.com
			Interior door & window glazing 1. 1/4-inch (nominal) clear laminated glass using 0.03-inch PVB interlayer between (2) layers 6mm clear tempered float glass. A. Additional features where office doors feature glass / sidelite: provide pricing for 60% of glass to be obscured using one of the following: i. Privacy interlayer: equal to Capital White level 4 by Bendheim. ii. Privacy film applied to surface: polyester decorative films equal to 3M Fasara
		C1030 Fittings	Toilet partitions & accessories 1. Toilet partitions & urinal screens: Floor mounted, top-braced equal to products by Global Partitions. Stainless steel, diamond texture. 2. Toilet accessories equal to products by AJW Architectural Products. A. Typical restroom: frameless mirror unit at each lavatory, combo paper towel dispenser and garbage receptacle (recessed mount), hand soap dispenser (battery-powered sensor operated, recessed), two-roll toilet paper dispenser, sanitary napkin disposal, (3) grab bars at accessible water closet (peened finish). B. Typical shower accessories: all typical restroom accessories plus shower curtain rod, (2) robe hooks, (3) grab bars at accessible shower stalls (peened finish). C. Housekeeping accessories: mop holder with shelf.
			Wall mirrors (Fitness room) 1. 1/4 inch tempered glass mirrors, frameless installation.
			Casework 1. All casework shall meet AWI specifications for Custom grade. Include scribes, fillers, closure panels, and finish end panels as required. 2. Casework fronts: Face frame with full-overlay. 3. Drawer sides and backs: solid hardwood. Drawer bottoms: plywood. 4. Exposed exterior surfaces: Fingerprint-resistant HPL on 3/4 inch solid substrate. 3mm rubber edge banding. 5. Exposed interior surfaces: Match exterior surface in alternate color. 6. Semi-exposed interior surfaces: TFL on solid substrate. 7. Hardware A. Pulls equal to Mockett drop edge DP269 series.

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			B. Hinges equal to Richelieu 370 series, color to be selected. Include roller catches.
		C1030 Fittings	C. Drawer slides equal to products by Accuride and suitable for drawer width / loading. Slides feature rail mounts, all ball bearing action, full extension plus 1-inch over-travel, clear zinc finish. D. Shelf supports: double-pin adjustable supports at 32mm centers. E. Cable grommet equal to Mocket PS-2B. Trash grommet equal to Mocket TM2B. F. Counter support bracket at unsupported counter spans equal to Rakks EH. Vanity panel bracket at sink basins equal to Rakks ADA-Compliant Support Bracket. G. Garbage pull-out drawer front equal to Rev-A-Shelf 53TM-1850GSCDM2-FL (18-inch cabinet module) or 53TM-24GSCDM4-FL (24-inch cabinet module). 8. Counters: 1/2" solid surface on 3/4" solid substrate, typical unless noted otherwise. 1. Plastic laminate on 3/4 inch substrate at the following locations: A. IT Work counter 9. Window stools, typical: 1/4 inch solid surface. 10. Under-cabinet lights: 1. Provided by cabinet fabricator, equal to Hafele / Loox5 LED 2068 4000K flexible light strip. Provide 12V driver inside wall cabinet, conceal cable routing. 2. Aluminum profile 1190 recess mounting with flat milk diffuser lens. 3. Inline motion detector. Additional cables, connectors, and accessories as required for functionality. 10. Display cases 1. Plastic laminate (5) sides of enclosure, laminated glass door fronts, laminated glass shelving secured to suspended cables within display case. 2. Assume 5 ft width x 1 ft depth x 6 ft height, quantity of 2 in Public Lobby and 2 in Command suite.
			Transaction windows 1. Ballistic metal frame and polycarbonate glazing equal to Baffle Transaction Window by Total Security Solutions. Include anti-ricochet deal tray. Match ballistic rating of adjacent wall. Black anodized frame finish. Counter by Casework provider. A. Public Lobby / Records B. Property Return Waiting / Property Return i. Include manufacturer's Package Passer, 14-in x 14-in x 14-in. 2. Interior hollow metal frame, adjacent door frame requirements. Laminated interior glazing with 4-inch document pass opening at counter. Counter by Casework provider. A. Records Clerks / Staff Circulation. B. Evidench Processing / Bag & Tag
			Window shades equal to Lutron Contract Shades, inside mount. THEIA-compliant solar screen with 3% openness factor. Provide at all exterior windows in the following locations. 1. Manual operation at exterior windows in the following areas A. Windows on south building elevation excluding those of Community Room. 2. Manual operation at interior windows in the following areas A. Project room B. Conference room. C. Private offices designated for interior glazed office fronts. 3. Motorized with remote electronic control in the following areas A. Briefing (wall control) B. Community (integrate with AV controls)

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Level I	Level II	Level III	notes
		C1030 Fittings	Laboratory Equipment (Bag & Tag, Evidence Processing, Evidence Storage): 1. [Equipment LE-1] Fixed modular steel lab casework, full flush overlay. Approved manufacturers: Kewaunee Scientific Corportation, Mott Manufacturing, Bedcolab. Quantity: Refer to plans for approximate cabinet and work island sizes. A. Steel sheet body fabrication. Powdercoat finishes to exhibit good or excellent resistance to chemical exposure, including acids. C. All upper cabinets feature framed glazed doors with 1/4 inch clear tempered safety glass. D. Epoxy resin counters equal to product by Durcon, Kewaunee Scientific, American Epoxy. Beveled edges, color to be selected from manufacturer's full range. E. Epoxy sink basins, integrally molded with counter, include overflows, sink outlets, and tailpieces. Assume each basin is 25-in length x 15-in width, single-well. 10-inch basin depth at Lab, 5-in basin depth at Bag & Tag. Support sinks on 11-ga adjustable steel channel with reagent-resistant finish, two per cabinet. F. Fixtures equal to products by Watersaver Faucet Company, T&S Brass, Chicago Faucet. G. Undercabinet lights at each wall cabinet. Electrical contractor to provide plugmold at each wall cabinet for undercabinet lights and other convenience power needs. 2. [Equipment LE-2] Mobile work table. Quantity: 2. A. Rolling plastic cart equal to Uline H-2505BL. 3. [Equipment tag LE-3] Task exhaust. Quantity: 2. A. Articulating ceiling-mount task exhaust equal to Movex Inc ME100, 100 CFM. Contractor to connect to building exhaust duct. 4. [Equipment tag LE-4] Task light. Quantity: 1. A. Articulating ceiling-mount exam light equal to Steris Harmony Exam Light. Contractor to provide above-ceiling power. 5. [Equipment tag LE-8] Combination Emergency Eyewash / Shower. Quantity: 4. A. Swing-down recessed eyewash wth overhad shower equal to Watersaver SSBF2150. B. Pipe eyewash pan drainage to fully concealed sanitary waste system. Do not discharge eyewash onto floor. C. Refer to plumbing for fixture connections and associated floor drain. 6. [Equipment tag LE-9] Metal Evidence Lockers. Quantity: 0. Units purchased directly by Owner under separate contract and identified below for reference only. A. (3) new units equal to Tiffin 05AB 36x24x78 with Digilock electronic lock. B. Omit manufacturer's cabinet base and install cabinets on 4 inch concrete pad. 7. Miscellaneous products. A. First aid kit equal to Johnson & Johnson product 39N794 from Grainger. Quantity: 2. B. Burn kit equal to North by Honeywell product 019727-0014L from Grainger. Quantity: 1.
			Police Equipment 1. [Equipment PE-1] Gun clearing port. Quantity: 4. A. Equal to APC 100W, wall mount. Assume (4) units total, locations TBD. 2. [Equipment PE-2] Cuffing bench. Quantity: 1. A. Equal to G-S Company GS3550SS. 10-ga stainless steel top plate, 12 inch width. Opaque enamel at all components other than stainless steel. Assume 5 ft length. Secure to floor. 3. [Equipment PE-3] Gun locker. Quantity: 2. A. Equal to Fasco FC-700-4, recessed wall mount. Assume (4) units total, locations TBD. 4. [Equipment PE-4] Stainless steel interview furnishing. A. Fabricated stainless steel counter, 16-ga, 1-1/2" plywood substrate. Secure to wall using steel L3x3 angle within wall framing depth. Provide (1) support leg equal to Hafele 635.70.000 with anchoring foot. A. 24-in x 24-in typical. Quantity: 2. B. 24-in x 48-in at Large Interview. Quantity: 1. 5. [Equipment PE-5] Gun cleaning station. Quantity: 2 stations at Gun Cleaning + 1 station at Armory. A. Fabricated stainless steel counter, 24-in depth x 30-in width per station. 1-1/2" square marine edge, back and side splashes. Stainless steel channel frame and wall brackets. B. Fabricateed stainless steel shelf, 12-in depth. Match counter construction. C. Task light secured to bottom of shelf. D. Electrical: Provide (1) duplex power receptacle at each station. E. Mechanicl: Provide (1) exhaust grille ducted to building exhaust above work counter. F. Plumbing: Provide (1) compressed air terminal fitting above work counter. 6. [Equipment PE-6] Armory storage boards. Quantities listed below. A. Provide (1) metal pegboard equal to Uline H-6450BL and (3) H-2685. Install vertically on wall. B. Provide (2) louvered bin storage panels equal to Metro MB1861LWP Louvered Wall Panel, 18" x 61". Install vertically on wall. 7. [Equipment PE-2] Cuffing bench. Quantity: 1.

Level I	Level II	Level III	notes
			A. Equal to G-S Company GS3550SS. 10-ga stainless steel top plate, 12 inch width. Opaque enamel at all components other than stainless steel. Assume 5 ft length. Secure to floor.
			Miscellaneous Equipment 1. [Equipment HD-1]: High-density mobile storage (Records) A. Salvage and reinstall existing mobile shelving carriages from existing facility. B. Provide new rails, surface-mount with deck ramp. C. Refer to Fixed Furnishings for additional requirements. 2. [Equipment HD-2]: High-density mobile storage (Evidence). Quantity: 0 in GC scope. Storage system provided by separate contract between Owner and Vendor. Contractor to coordinate schedule and foundation requirements. Note units anticipated to use SpaceSaver Wheelhouse surface-mount rails. 3. [Equipment LK-1]: Duty lockers at Annex. Quantity: 0 in GC scope. Lockers provided by separate contract between Owner and Vendor. Contractor to provide: A. Installation of 4-inch concrete pad base. B. Power distribution below floor to each locker row. Note: lockers include a proprietary power distribution system and receptacles. C. Mechanical exhaust connection at each locker row. Note: lockers fabricated with 8-inch boot for ducted connection by Mechanical. 4. [Equipment LK-3]: K9 staff lockers. Quantity: 1. A. Equal to Uline H-5528 industrial metal locker, 15-in width x 18-in deep x 78-in height. 5. [Equipment K9-1]: K9 wash. Quantity: 1. A. Stainless steel wash basin with ramp & sliding door equal to Vevor VV-CWYG201BXG-62IN. 6. [Equipment K9-2]: K9 narcotics vault A. Wall-mount locking box equal to Key Systems SAM vault A1C3642I000N + (2) 9K50001 Shelves. Integrate with building access control system via wiring connection to adjacent card reader relay. 7. [Equipment K9-3]: K9 watering station. Quantity: 2. A. Wall-mount automatic watering station equal to Nelson Manufacturing model 1200, stainless steel. Provide piped water to wall faucet with shut-off valve. 8. [Equipment WA-1]: Vehicular wash station. Quantity: 1. A. Equal to Dultmeier EWS10-51 with overhead on-demand activation. Include overhead sprayer boom ZIESB100 with all required accessories. 9. [Equipment WA-2]: Vehicular vacuum station. Quantity: 1. A. Equal to J.E. Adams 9225 with push-button activation. 10. [Equipment WA-3]: Vehicular compressed air station. Quantity: 1. A. Plumbing contractor to provide air compressor and retractible hose reel. 11. [Equipment MAIL]: Commercial steel mail cabinets. Quantity: 6 banks, ganged into one location. A. Equal to Salsbury 3700 series recessed with 4C horizontal mailboxes and front loading. B. Assume minimum quantity 62 individual boxes using ganged banks, 11-box height units. At least one bank will include a double-height box for outgoing mail. C. All boxes except outgoing mail feature thumb-turn in lieu of lock. 12. [Equipment VB-1]: Steel tube vehicular bumper guards equal to Uline Machine Guards, mechanically anchor to floor slab. Quantities as listed below. A. Model H-2120, straight unit 42-inch high. Quantity: (4) at Annex Vehicular Bays and (3) at Sallyport. B. Model H-4076, straight unit 24-inch high. Quantity: (4) at Annex Vehicular Bays and (3) at Sallyport.

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Level I	Level II	Level III	notes
	C20 Stairs	C2010 Stair Construction	
			Exterior entry stair: refer to Civil.
			Annex circulation stair 1. Structure: reinforced concrete, refer to structural. 2. Railing: Steel pipe hand rail both sides. 1-1/2 inch outside diameter, railing extensions as required at top and bottom. Return all hand rails to wall, floor, or itself. Powdercoat finish prior to installation. Secure to walls with stainless steel wall brackets.
		C2020 Stair Finishes	
			Treads and risers: Rubber treads and risers equal to products by Nora.
	C30 Interior Finishes	C3010 Wall Finishes	
			Refer to drawings for additional finish products not indicated in narrative.
			Paint. Approved manufacturer's: PPG, Sherwin Williams 1. All paint with VOCs no more than 150 g/L. Eggshell finish typical unless noted otherwise. 2. Wall paint in restrooms: Semi-gloss finish. 3. Wall paint in Sallyport (including associated storage and K9 areas), Interview rooms, Interview Corridor, and Restrooms: Epoxy paint.
			Ceramic tile 1. Refer to Tile specification in Floor Finishes 2. Wall tile extends to 42" AFF at locations designated as wall protection.
			Acoustic wallcarpet (Interview rooms) 1. Installed from floor to ceiling. Shaw Contract 60751 Whisper or similar. Provide markerboard wall finish above interview table equal to Walltalkers EZ-Rite, match table width, full height to ceiling.
		C3020 Floor Finishes	
			Porcelain tile, fully comply with applicable ANSI and TCA standards. 1. 9mm rectified tile, 24in x 48in (cut to height at wainscot), refer to Allowances. Polymer-modified tiled grout (ANSI 118.7). Prefinished metal edge trim equal to products by Schluter, typical all tile extents and exposed corners. 2. Floor installation: Latex portland cement mortar (ANSI A118.4), 5/8 inch medium bed. Self-adhesive crack isolation membrane (ANSI 118.2) equal to Custom Building Products Crackbuster Pro. Slab moisture testing where installed over concrete, ASTM F2170. 3. Wall installation: latex portland cement mortar (ANSI 118.4), thin-set. Cement tile backer board in lieu of (1) layer of GWB at non-fire-rated walls (ANSI 118.9) equal to James Hardi Hardiebacker, 1/2 inch thickness.
			Composite Textile Carpet 1. Polyester tile equal to Kinetex by J+J Flooring. Color: Provision 1831. 2. Includes rubber base specified separately unless noted otherwise.
			Walk-off Carpet 1. Refer to drawings for allowance.
			Luxury Vinyl Tile (LVT) 1. Architect to provide allowance. Refer to Drawings for locations by ceiling type. 2. Includes rubber base specified separately unless noted otherwise.
			Athletic rubber floor (Fitness) 1. Equal to Ecore Athletic Performance Rally. 2. 48-in roll, adhered. Color TBD. 3. Includes rubber base specified separately unless noted otherwise.

Level I	Level II	Level III	notes
	C30 Interior Finishes	C3020 Floor Finishes	Seamless Safety Flooring (Evidence Intake, Bag & Tag) 1. Equal to Eco-Grip Safety Flooring. 2. 5 ft x 8 ft sheets, welded seams, 1/4-in thickness. 3. Integral 4" base with base cap to match flooring.
			Rubber tile floor [RBR-3] (refer to Alternates) 1. Equal to Nora Norament Castello. Material allowance $12 / sf. 2. 40-in x 40-in tiles, 3.5 mm thickness. 3. Integral 4" base with base cap to match flooring.
			Rubber base: 4 inch height, equal to products by Johnsonite.
			Resinous floors equal to systems by Stonehard described below. Colors to be selected from manufacturers standard options. Contact: Brian Gates (615.456.9757 / bgates@stonhard.com). All epoxy floors include #2 texture surface and 6" integral base with manufacturer's standard metal trim bead at top. All colors to be selected from manufacturer's standard options. 1. EPOXY-1 / Vehicular & K9: StonClad GS 2. EPOXY-2 / Evidence Handling: Stongard MR 3. EPOXY-3 / MDF-Server: Stonkote ESD
			Exposed concrete slab [Conc-1]: clear waterborne membrane-forming curing and sealing compound. Protect slab from stains and damage for duration of the Work.
		C3030 Ceiling Finishes	
			Refer to drawings for additional product information not noted in narrative.
			Exposed ceiling: paint all visible structure and building system components.
			Acoustic deck treatment (refer to Alternates) 1. Acoustic spray cellulose equal to ICC K-13, 1-1/2 inch minimum thickness. Dryfall paint finish in field. 2. Acoustic wood fiber panels equal to Armstrong Tectum High NRC, 1-inch panel thickness. Secure to roof with furring strips per manufacturer's D-20 method. Dryfall paint finish in field. Assume (2) 24-inch panel widths between trusses and 96-inch panel lengths with butt-joint ends to cover majority of exposed deck surface.
			Gypsum board ceiling 1. 5/8" Type "X" gypsum board, level IV finish unless noted otherwise. 2. Suspended framing as required A. Dyrwall suspension grid system by USG or Armstrong B. Suspended metal stud framing 3. Flat paint finish with VOC's no more than 50g/L
			Acoustic tile ceilings: Provide the following ceiling types where indicated. All ceilings include 15/16" suspended grid. 1. ACT Type A (Typical Office): Armstrong Calla Templok, 2x2 square lay-in. Color: White. 2. ACT Type B (Typical Meeting Room): Armstrong Lyra, 2x2 square tegular. Custom color to be selected. 3. ACT Type C (Vinyl Cleanable): Armstrong Kitchen Zone, 2x2 square lay-in. Color: White. 4. ACT Type D (Utility Spaces): Amrstrong Dune, 2x2 square lay-in. Color: White.
			High-Performance Theater Ceiling (Simulator room) 1. Roof deck and truss as specified separately. 2. Hat furring channel, 1-1/2 inch depth x 33-mil, secure to bottom truss chord no more than 24" o.c. using acoustic sound clips equal to ClarkDietrich Sound Clip CDSC. 3. (2) layers 5/8" gypsum board sheathing, staggered joints. Secure to hat furring channel. 4. Mechanical plenum / airspace. 5. Acoustic tile ceiling type ACT-A suspended from truss bottom chords.

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		C3030 Ceiling Finishes	Abuse-Resistant Ceiling Assembly 1. Suspended metal stud framing system as required. 2. 1/2" fire-retardant-treated plywood sheathing secured to stud framing. 3. (1) layer 5/8" GWB. 4. Abuse-tolerant acoustic panel equal to Metro Rebound, 2" panel thickness. Secure using concealed z-clip fasteners to ceiling substrate.
D Services	D10 Conveying	D1010 Elevators & Lifts	None in project scope.
	D20 Plumbing	D2010 Plumbing Fixtures	Specialty plumbing accessories: A. Boot wash at Staff Entry Vestibule: i. Preformed mop sink equal to Acorn MS-MOD-E522, 48w x 18d x 6h, tiling flange on back edge only. ii. Faucet equal to T&S Brass B-0665-BSTP-963 with 4-arm handle. iii. Sprayer hose and adapter equal to T&S Brass B-0036-H and 059A. iv. High-flow sprayer equal to T&S Brass EB-0107-035 with hold down ring and B-0166 wall-hung hook. B. Shower: i. Preformed terrazzo shower pan equal to Fiat ADATN3636 with tiling flange 3 sides. ii. Refer to Engineering narrative for shower controls, faucet, and accessible hand-sprayer. C. K9: i. K9 hydration station: Provide (1) wall hydrant in each K9 run (2 total). ii. K9 wash station: Rough-in hot water, cold water, and drain. Make final connections to wash station. D. Emergency eye wash stations: Refer to Architect's Lab Equipment specifications for quanities and locations. E. Wall box and plumbing service for Owner appliances: i. Community Room concessions: Countertop coffee and water dispensers. ii. Conference Room concessions: Countertop water dispenser. iii. Staff Break: Ice maker. Countertop sink. Undercounter dishwasher. Countertop coffee and water dispensers. iv. Drinking fountain with bottle filler: (1) at Public Lobby. (1) at Fitness. v. Clothes Laundry (Annex). F. Hot water, cold water, and drain at all lavatories and hand sinks. Refer to Engineering narrative for products. i. Restrooms: (1) each. ii. Evidence Storage: (1) wall-hung hand wash lavatory. iii. Evidence Processing: (1) hand wash sink, make connections to sink and faucet provided by Lab Casework installer. iv. Bag & Tag: (1) hand wash sink, make connections to sink and faucet provided by Lab Casework installer.
			Floor drains: Provide at the following areas, assume a quantity of (1) each unless noted otherwise. A. Sallyport: 2 locations. Refer to Plumbing for associated oil-water separator unit (shared with Annex Vehicular Bay drains). B. Annex Vehicular Bays: 1 location per bay. Refer to Alternates. Refer to Plumbing for associated oil-water separator unit (shared with Sallyport drains). C. Mechanical / Plumbing room. D. Sprinkler Riser E. Evidence Storage (area of emergency eye wash). F. Evidence Processing (area of emergency eye wash). G. Bag & Tag (area of emergency eye wash). H. Large Evidence. I. Restrooms: 1 each. Include Interview Restroom. J. Storm Shelter K. Showers: 1 in each shower + 1 in area of toilet.

Level I	Level II	Level III	notes
			L. K9: 3 locations. Refer to Engineering narrative for additional information.
		D2020 Domestic Water Distribution	Refer to Engineering narratives
		D2030 Sanitary Waste	Refer to Engineering narratives
		D2040 Rain Water Drainage	Metal gutters and downspouts by roofing installer. Connect to stormwater boots, refer to Civil.
		D2090 Other Plumbing Systems	
	D30 HVAC	D3010 Energy Supply	Refer to Engineering narratives
		D3040 Distribution Systems	Floor box locations: Provide a minimum (2) duplex power receptacles at each of the following. Refer to Communications & Security requirements for additional box capacity required for integration of low voltage systems. 1. Community Room: (10) floor boxes at training tables. (1) floor box at speaker lectern. 2. Conference: (1) floor box at conference table. 3. Project Room: (1) floor box at conference table. 4. Investigations Teaming: (1) floor box at teaming table. 5. Field Operations Sargent open work area: (3) floor boxes at open work cubicle groupings. 6. Briefing: (1) floor box at speaker lectern. 7. Fitness: (1) floor box at cardio equipment. 8. VR Simulator: (1) floor box at operator station.

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Level I	Level II	Level III	notes
		D3090 Other HVAC Systems & Equipment	1. Make final exhaust connections to equipment and devices as required. A. Exhaust equipment identified in Laboratory Exhaust equipment specifications. B. Duty lockers specified in Miscellaneous Equipment specifications. 2. Provide ducted exhaust and wall grille at gun cleaning stations. A. Gun Cleaning: (4) stations. B. Armory: (1) station. 3. Refer to drawings for diagram of typical Interview room, including overhead supply diffuser and wall exhaust with detention-grade diffusers and grilles. A. Provide remote airflow control mechanisms for adjustment above Interview Corridor ceiling. B. Provide sound boot and other acoustic measures as specified for supply and exhaust air. C. Ensure no mechanical trunk is routed above Interview rooms.
			Refer to Engineering narratives.
	D40 Fire Protection	D4010 Sprinklers	1.Concealed heads at all GWB and cloud ceilings. Anti-ligature heads at Interview and Sallyport. Semi-recessed at all other locations, white. 2. Pre-action system at MDF. 3. Refer to Engineering narratives.
		D4020 Standpipes	
		D4030 Fire Protection Specialties	Semi-recessed fire extinguisher cabinets, assume a quantity of 10, locations TBD. Surface-mount fire extinguisher cabinets, assume a quantity of 4.
		D4090 Other Fire Protection Systems	Refer to Engineering Narratives.
	D50 Electrical	D5010 Electrical Service & Distribution	Refer to Engineering narratives.
		D5020 Lighting and Branch Wiring	Refer to Engineering narratives.

Level I	Level II	Level III	notes
		D5030 Communications & Security	Refer to Engineering Documents. 1. Typical work station / office includes (3) LAN data at desk. 2. Provide (1) LAN data to each video display unit unless noted otherwise. Refer to drawings for locations. Note additional AV rough-in requirements described separately. 3. Copy: Provide (1) LAN data at each copier location. Refer to drawings for locations. 4. Typical enclosed office includes (2) AV boxes with conduit path above ceiling to provide content delivery from desk to video display unit. AV cabling by Owner's AV vendor. 5. Lobby / Records transaction window: Provide (3) LAN data on staff side plus (2) LAN data on public side (customer payment device). 6. Property Return transaction window: Provide (3) LAN data on staff side of transaction station. Provide (1) AV box and conduit path at both sides of wall for secured content delivery to video display in public area. 7. Community Room: Provide (1) LAN data in floor box at speaker lectern. Provide AV conduit pathway from lectern floor box to AV Storage room. Provide (1) AV box and conduit path from each video display to AV storage room. 8. Report Writing: Provide (4) LAN data. 9. Patrol Gear: Provide (4) LAN data. 10. Conference: Provide (2) LAN data and (2) AV wall boxes with conduit above ceiling for content delivery workstations. Provide (1) AV box and conduit path above ceiling at each video display unit. Provide (2) LAN data to floor box at conference table. 11. Project Room: Provide (2) LAN data at floor box under table. Provide AV conduit path from floor box to above ceiling. Provide (1) AV box with conduit path above ceiling to each video display. 12. Briefing: Provide (1) LAN data at lectern floor box. Provide AV conduit pathway from floor box to above ceiling. Provide (1) AV box and conduit path above ceiling at each video display. 13. Field Operations Sargent open work area: Provide LAN data in quantity specified to each work station in floor boxes where any cubicle grouping does not abut a wall. 14. Investigations open work area: Provide LAN data in quantity specified to each work station grouping from exterior wall. 15. Investigations Teaming: Provide (2) LAN data to floor box at teaming table. 16. Bag & Tag: Provide (3) LAN data to work station at Laboratory Casework. 17. Evidence Processsing: Provide (4) LAN data to work station at Laboratory Casework. 18. VR Simulator: Provide (1) LAN data to floor box at simlator operator station. Provide (1) AV box and conduit path from wall behind screens to operator station floor box. 19. Fitness: Provide (4) LAN data to floor box for fitness equipment media. Provide (1) AV box with conduit above ceiling for Defensive Tactics content delivery to video display. Provide (1) AV box at video display with conduit path above ceiling.
			Refer to drawings for locations of Access Control, Video Surveillance, Duress system, and Public Announcement system devices. 1. Refer to Engineering narratives for additional information. 2. Door hardware installer to provide all electrified lock sets, DPS, and RTX devices. 2. Security system vendor to provide: A. Access control power supply including cabling to electrified door hardware. Assume 2A power, filtered and listed UL294 with alarm interfaces, at each door featuring access control. B. Endpoint devices including access control reader devices, access control cards / fobs, security cameras with associated mounts, intercom devices, and duress call buttons. C. UPS provisions for controller hardware, access control devices, and electrified door hardware for the purposes of short-term power in outages until building generator power is operating. D. Head-end equipment including controller server, switches, mounting hardware.
			Interview monitoring system integration 1. Refer to Engineering narratives for additional information. 2. Provide rough-in and LAN data to each Interview Monitoring device location. Refer to drawings for typical Interview room layout. 3. Endpoint devices of Interview Monitoring System to be provided in separate contract by Owner's system vendor. 4. Provide junction box above ceiling at each Interview room door in Interview Corridor. Install line-voltage jumper from light switch to box above ceiling with 12V relay device. 12V circuit will provide activation of Interview Recording System upon use of room light switch. 5. Provide junction box above light switch box with 12V Room-In-Use light fixture and jumper to 12V relay device above ceiling.

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		D5090 Other Electrical Systems	Audio-Visual System to be procured directly by Owner under separate contract. Contractor to coordinate installation schedule and provide all conduit & rough-in. System design assumptions include: 1. All visual display locations to include (1) quad power receptacle and (2) LAN data ports in a separate quad box. 2. Refer to Drawings for locations of visual displays, lecterns, and floor boxes. 3. Court / Community A. Overhead projector and motorized screen. B. Recessed ceiling speakers. C. Microphone at all dais seating locations. D. Integrate AV controls at (1) dais seating location TBD. E. (1) PTZ camera for event recording. F. Confidence monitor behind audience 4. Briefing A. Visual displays on speaker wall. B. Integrate AV controls at (1) dais seating location TBD. 5. Training Classroom A. Visual displays on speaker wall. B. Confidence monitor behind audience C. Recessed ceiling speakers. D. Microphone at speaker lectern. E. Integrate AV & window controls at speaker lectern. 6. Emergency Coordination Conference Room (ECC) A. Visual displays on multiple walls. Input feeds from LAN data, conference table participants, or computer stations within room. B. Recessed ceiling speakers. C. Suspended microphones over conference table. D. AV hardware in ventilated casework or furniture within room. E. Integrate AV & window controls at speaker lectern. 7. Project A. Visual display on speaker wall. Input feeds from LAN data and conference table participants. E. AV hardware in ventilated casework or furniture within room.
E Equipment & Furnishings	E10 Equipment	E1010 Commercial Equipment	Security screening equipment at Public Lobby to be procured by owner. Contractor to provide power & data at each station.
		E1090 Other Equipment	Owner-furnished equipment: AV stand in courtroom by Owner, Copiers by Owner 1. Courtroom mobile AV cart (power, LAN data) 2. Copiers (power, LAN data) 3. All workstation computers and networking hardware for LAN data (excluding components for Access Control, VSS, and A/V systems). 4. Vending machines (power). 5. Break Room dishwasher, refrigerator, coffee maker (power & water). 6. Break room microwave (power). 7. Secondary staff break areas: under-counter refrigerator (power). 8. Commercial grade ice maker (power, water) at Breakroom.

Level I	Level II	Level III	notes
	E20 Furnishings	E2010 Fixed Furnishings	
			Dry-erase whiteboards 1. Magnetic glass markerboards equal to Claridge Glass MGMI-34, magnetized, 36x48, invisi-mount, brilliant white. 17 units total, locations to be determined.
			Mobile File Shelving: Provided under separate contract between Owner and Vendor.
			Interior & exterior signage: Refer to Allowances.
		E2020 Movable Furnishings	Procured by owner under separate contract, shown dashed on Drawings. Contractor to coordinate installation schedule and applicable connections to building services.
G Sitework & Utilities	G10 Site Preparation	G1010 Site Clearing	
		G1020 Site Demolition and Relocations	Previously developed site, remove existing paving and utilities to indicated extents. Refer to Civil & Landscape Documents.
		G1030 Site Earthwork	Refer to Civil & Landscape Documents
		G1040 Hazardous Waste Removal	Investigations and remediation requirements excluded from scope of work.
	G20 Site Improvements	G2010 Roadways	Refer to Civil & Landscape Documents
		G2020 Parking Lots	Refer to Civil & Landscape Documents
		G2030 Pedestrian Paving	Refer to Civil & Landscape Documents
		G2040 Site Development	Refer to Civil & Landscape Documents
		G2050 Landscaping	Refer to Civil & Landscape Documents

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	G30 Site Mechanical Utilities	G3010 Water Supply	Refer to Civil & Landscape Documents
		G3020 Sanitary Sewer	Refer to Civil & Landscape Documents
		G3030 Storm Sewer	Refer to Civil & Landscape Documents
		G3040 Heating Distribution	
		G3050 Cooling Distribution	
		G3060 Fuel Distribution	Refer to Civil & Landscape Documents
	G40 Site Electrical Utilities	G3090 Other Site Mechanical Utilities	
		G4010 Electrical Distribution	Refer to Civil & Landscape Documents
		G4020 Site Lighting	Site lighting fixtures included in lighting allowance. Lighting allowance does not include costs of associated rough-in, concrete pads, or other installation. Pole lights with concrete pedestal base, rubbed finish. Flag pole lights are pole-mounted fixtures included in Allowances.
		G4030 Site Communications & Security	Refer to Engineering Narratives.
		G4090 Other Site Electrical Utilities	
		G9010 Services and Pedestrian Tunnels	

Level I	Level II	Level III	notes
	G90 Other Site Construction	G9090 Other Site Systems & Equipment	Site perimeter fence (refer to Alternates), 8 ft height: A. Commercial rail-and-picket fence equal to Montage Commercial by Ameristar. "Invisible" picket style. B. V-mesh fence equal to Amiguard Perimeter System by Amico Security Products. Manufacturer's recommended posts, rails, sleeves, fasteners, and other accessories. Powdercoat finish. 5600-series mesh panels. Vehicular gate: sliding cantilever gates with manufacturer's recommended motorized operator and correctional-grade operator cover and battery backup. 20,000 cycle minimum warranty. Provide (1) at each ingress and egress lane. 1. Provide alternate pricing for the following: A. Tymetal TYM-SL-2000-HD-Hlouver Heavy Duty Cantilever with horizontal slat louver infill. TYM-SL-2000DC gate operator. B. Vehicular gates (alternate): sliding cantilever gate with baffle panel infill equal to Basteel Infinity 4000-Series. Linear VS-GSLG-721 2HP chain-drive motor operator. 2. Gate activation A. Ingress granted by access control proximity reader and remote activation by staff. Install access control and intercom devices in gooseneck mounting secured to concrete pad. Intercom device and remote activation tied staff location TBD in building. B. Egress granted by push-button control at motor operator and in-ground induction loop detector. Pedestrian swinging gate (generator yard adjacent to Vehicular gates): Swinging gate by vehicular gate manufacturer. Access control entry, panic hardware egress. K9 gates: coated chain link matching product specified at Trailer Storage gates. 8 ft height. Flagpoles: aluminum ground-set units equal to American Flagpole Concord. Three units total: (2) 30 ft and (1) 35 ft heights.

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Structural Schematic Narrative

I. Project Description

The project consists of two separate buildings. The main building will be approximately 18,000 square feet and will include a structurally independent ICC 500 storm shelter. An approximate 5,700-square-foot annex building will also be included.

II. Code and Design Criteria

A. Applicable Codes

1. International Building Code, 2024 Edition

B. Design Loads

1. Live Loads: (reducible as allowed by code)

Roof	20 psf (minimum)
Snow	25 psf

2. Dead Loads (superimposed)

Miscellaneous	10 psf
Roof	20 psf

3. Wind Loads

Basic Wind Speed:	117 mph category IV
Exposure	C

4.

Seismic Loads	Annex Building	Building
Seismic Use Group	II	IV
Importance Factor	1.0	1.5
Sds	0.26	0.26
Sd1	0.11	0.11
Site Class		BC
Seismic Design Category	B	C

Seismic Force Resisting System: Light-framed (cold-framed steel) walls sheathed with wood structural panels rated for shear resistance
Analysis Procedure: Equivalent Lateral Force Procedure

III. Material Summary

A. General: The following structural materials are anticipated.

B. Concrete:

1. Footings: 4,000 psi
2. Slab-on-Grade: 4,500 psi (exterior) 4,000 (interior)

C. Reinforcing:

1. Rebar: ASTM A615, Grade 60

D. Structural Steel:

1. Structural Steel: Rolled Sections, ASTM A992, Grade 50
2. Pipe Columns: ASTM A53, Type EORS, Grade B
3. Structural Tubes: ASTM A500, Grade B
4. Bolts: ASTM A325 and ASTM A490
5. Electrodes: E70XX

IV. Foundations

A. Geotechnical Report

Foundation systems described below are based upon a geotechnical report performed by Terracon, dated March 19, 2026, report number 18265028.

B. Slabs-on-Grade

Main Building: Four-inch-thick concrete (4,000 psi) slab reinforced with WWF 6 x 6-W1.4 x W1.4 over 15 mil polyolefin geo membrane vapor barrier on 4” minimum granular fill (sand or crushed stone).

Annex Building: Six-inch-thick concrete (4,000 psi) slab reinforced with WWF 6 x 6-W2.9 x W2.9 over 15 mil polyolefin geo membrane vapor barrier on 4” minimum granular fill (sand or crushed stone).

C. Spread Footings

1. Exterior walls and load bearing walls will be supported on strip footings 2’-6” wide x 1’-0” thick reinforced with six #5 continuous rebar and #3 ties at 24” on center.

2. Interior load-bearing walls will be supported on a thickened slab 1’-0” x 2’-0” with two #5 continuous.

V. Load-Bearing Walls

A. Exterior Walls

1. Exterior walls and interior bearing walls will be constructed of 600S-162-43 light-gage studs with 15/32” plywood structural. Light-gage headers will be required at all openings.

2. An interior steel beam line will be required for spans greater than 10’-0” to divide the span of the roof trusses for large clear spans. The girder will be approximately a W16 or W18 beam. HSS6x6 columns will be located within the exterior and interior walls to support the girder.

VI. Roof Framing

A. The roof will consist of 1-1/2” deep, 20-gage, wide-ribbed, painted roof deck. The metal deck will bear on pre-engineered, light-gage trusses spaced at approximately 5’-0” centers. Typical span varies from 20’-0” to 30’-0”. The wood trusses will bear on 6” light-gage bearing walls noted in Section V.

VII. Veneer Support Lintels

A. For openings 10’ or less in width, loose angle lintels may be used. The lintels and other miscellaneous steel will add approximately 1 psf of steel to the project.

VIII. Lateral Load Resisting Structure

A. Interior and Exterior Shear Walls Wood Structure

1. The walls above will be constructed as defined in section V. Additional boundary elements will be constructed at each end. A Simpson hold-down will be required at each end of the shear walls.

IX. Structural Testing and Inspection

A. Special inspections and testing, as defined in Chapter 17 of the International Building Code and specified in the Project Specifications, are required to verify that the work has been completed in compliance with the Construction Documents. Tests and inspections shall be performed by a qualified Structural Testing/Inspection Agency.

X. Storm Shelter ICC500

A. Storm shelters are outside the building (refer to Architect for proposed location). Walls for the shelter will be eight-inch CMU with #5’s at 16 inches on center grouted solid. The roof structure will be 7-1/2” composite slab on 3” composite 20ga deck.

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SECTION 03300S – CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 SUMMARY

A. This section specifies cast-in place concrete, including formwork, reinforcement, concrete materials, mixture design, placement procedures, and finishes.

1.2 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Design Mixtures: For each concrete mixture.

C. Shop Drawings: For steel reinforcement.

1.3 QUALITY ASSURANCE

A. Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment.

1. Manufacturer certified according to NRMCA's "Certification of Ready Mixed Concrete Production Facilities."

B. ACI Publications: Comply with the following unless modified by requirements in the Contract Documents:

1. ACI 301, "Specification for Structural Concrete."
2. ACI 117, "Specifications for Tolerances for Concrete Construction and Materials."

C. Preinstallation Conference: Conduct conference at Project site.

PART 2 - PRODUCTS

2.1 FORM-FACING MATERIALS

A. Smooth-Formed Finished Concrete: Form-facing panels that will provide continuous, true, and smooth concrete surfaces. Furnish in largest practicable sizes to minimize number of joints.

B. Rough-Formed Finished Concrete: Plywood, lumber, metal, or another approved material. Provide lumber dressed on at least two edges and one side for tight fit.

2.2 STEEL REINFORCEMENT

A. Reinforcing Bars: ASTM A 615/A 615M, Grade 60 (Grade 420), deformed.

B. Plain-Steel Welded Wire Reinforcement: ASTM A 185, plain, fabricated from as-drawn steel wire into flat sheets.

C. Deformed-Steel Welded Wire Reinforcement: ASTM A 497, flat sheet.

2.3 CONCRETE MATERIALS

A. Cementitious Material: Use the following cementitious materials, of the same type, brand, and source, throughout Project:

1. Portland Cement: ASTM C 150, Type I.

a. Fly Ash: ASTM C 618, Class C or F.
b. Ground Granulated Blast-Furnace Slag: ASTM C 989, Grade 100 or 120.

B. Normal-Weight Aggregates: ASTM C 33, graded, 1-inch nominal maximum coarse-aggregate size.

1. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.

C. Water: ASTM C 94/C 94M.

D. Air-Entraining Admixture: ASTM C 260.

E. Chemical Admixtures: Provide admixtures certified by manufacturer to be compatible with other admixtures and that will not contribute water-soluble chloride ions exceeding those permitted in hardened concrete. Do not use calcium chloride or admixtures containing calcium chloride.

1. Water-Reducing Admixture: ASTM C 494/C 494M, Type A.
2. Retarding Admixture: ASTM C 494/C 494M, Type B.
3. Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type D.
4. High-Range, Water-Reducing Admixture: ASTM C 494/C 494M, Type F.
5. High-Range, Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type G.
6. Plasticizing and Retarding Admixture: ASTM C 1017/C 1017M, Type II.

2.4 VAPOR RETARDERS

A. Plastic Vapor Retarder: Polyethylene sheet, ASTM D 4397, 15 mils thick.

2.5 CURING MATERIALS

A. Evaporation Retarder: Waterborne, monomolecular film forming, manufactured for application to fresh concrete.

B. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. (305 g/sq. m) when dry.

C. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.

D. Water: Potable.

E. Clear, Waterborne, Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B, dissipating.

F. Clear, Solvent-Borne, Membrane-Forming Curing and Sealing Compound: ASTM C 1315, Type 1, Class A.

2.6 RELATED MATERIALS

A. Expansion- and Isolation-Joint-Filler Strips: ASTM D 1751, asphalt-saturated cellulosic fiber.

2.7 CONCRETE MIXTURES

A. Prepare design mixtures for each type and strength of concrete, proportioned on the basis of laboratory trial mixture or field test data, or both, according to ACI 301.

B. Cementitious Materials: Use fly ash, pozzolan, ground granulated blast-furnace slag, and silica fume as needed to reduce the total amount of Portland cement, which would otherwise be used, by not less than 40 percent.

C. Proportion normal-weight concrete mixture as follows:

1. Minimum Compressive Strength: 4000 psi at 28 days.
2. Maximum Water-Cementitious Materials Ratio: 0.50.
3. Slump Limit: 8 inches for concrete with verified slump of 2 to 4 inches before adding high-range water-reducing admixture or plasticizing admixture plus or minus 1 inch (25 mm).
4. Air Content: **5-1/2** percent, plus or minus 1.5 percent at point of delivery for 1-1/2-inch (38-mm) nominal maximum aggregate size.
5. Air Content: **6** percent, plus or minus 1.5 percent at point of delivery for 1-inch (25-mm) nominal maximum aggregate size.
6. Air Content: Do not allow air content of troweled finished floors to exceed 3 percent.

2.8 FABRICATING REINFORCEMENT

A. Fabricate steel reinforcement according to CRSI's "Manual of Standard Practice."

2.9 CONCRETE MIXING

A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94/C 94M and furnish batch ticket information.

1. When air temperature is between 85 and 90 deg F (30 and 32 deg C), reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F (32 deg C), reduce mixing and delivery time to 60 minutes.

PART 3 - EXECUTION

3.1 FORMWORK

A. Design, erect, shore, brace, and maintain formwork according to ACI 301 to support vertical, lateral, static, and dynamic loads, and construction loads that might be applied, until structure can support such loads.

B. Construct formwork so concrete members and structures are of size, shape, alignment, elevation, and position indicated, within tolerance limits of ACI 117.

C. Chamfer exterior corners and edges of permanently exposed concrete.

3.2 EMBEDDED ITEMS

A. Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-place concrete. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.

3.3 VAPOR RETARDERS

A. Plastic Vapor Retarders: Place, protect, and repair vapor retarders according to ASTM E 1643 and manufacturer's written instructions.

3.4 STEEL REINFORCEMENT

A. General: Comply with CRSI's "Manual of Standard Practice" for placing reinforcement.

3.5 JOINTS

A. Construction Joints: Install so strength and appearance of concrete are not impaired, at locations indicated or as approved by Architect.

3.6 CONCRETE PLACEMENT

A. Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections have been performed.

B. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete will be placed on concrete that has hardened enough to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as indicated. Deposit concrete to avoid segregation.

1. Consolidate placed concrete with mechanical vibrating equipment according to ACI 301.

C. Cold-Weather Placement: Comply with ACI 306.1.

D. Hot-Weather Placement: Comply with ACI 301.

3.7 FINISHING FORMED SURFACES

A. Rough-Formed Finish: As-cast concrete texture imparted by form-facing material with tie holes and defects repaired and patched. Remove fins and other projections that exceed specified limits on formed-surface irregularities.

B. Smooth-Formed Finish: As-cast concrete texture imparted by form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams. Repair and patch tie holes and defects. Remove fins and other projections that exceed specified limits on formed-surface irregularities.

C. Rubbed Finish: Apply the following to smooth-formed finished as-cast concrete where indicated:

1. Smooth-Rubbed Finish: Not later than one day after form removal, moisten concrete surfaces and rub with carborundum brick or another abrasive until producing a uniform color and texture. Do not apply cement grout other than that created by the rubbing process.
2. Grout-Cleaned Finish: Wet concrete surfaces and apply grout of a consistency of thick paint to coat surfaces and fill small holes. Mix one part Portland cement to one and one-half parts fine sand with a 1:1 mixture of bonding admixture and water. Add white Portland cement in amounts determined by trial patches so color of dry grout will match adjacent surfaces. Scrub grout into voids and remove excess grout. When grout whitens, rub surface with clean burlap and keep surface damp by fog spray for at least 36 hours.

D. Related Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces, unless otherwise indicated.

3.8 FINISHING FLOORS AND SLABS

A. General: Comply with ACI 302.1R recommendations for screeding, re-straightening, and finishing operations for concrete surfaces. Do not wet concrete surfaces.

B. Scratch Finish: While still plastic, texture concrete surface that has been screeded and bull-floated or darbied. Use stiff brushes, brooms, or rakes to produce a profile amplitude of 1/4 inch (6 mm) in 1 direction.

C. Float Finish: Consolidate surface with power-driven floats or by hand floating if area is small or inaccessible to power driven floats. Restraighten, cut down high spots, and fill low spots. Repeat float passes and re-straightening until surface is left with a uniform, smooth, granular texture.

D. Trowel Finish: After applying float finish, apply first troweling and consolidate concrete by hand or power-driven trowel. Continue troweling passes and restraighten until surface is free of trowel marks and uniform in texture and appearance. Grind smooth any surface defects that would telegraph through applied coatings or floor coverings.

E. Trowel and Fine-Broom Finish: Apply a first trowel finish to surfaces. While concrete is still plastic, slightly scarify surface with a fine broom.

1. Comply with flatness and levelness tolerances for trowel finished floor surfaces.

F. Broom Finish: Apply a broom finish to exterior concrete platforms, steps, and ramps, and elsewhere as indicated.

3.9 CONCRETE PROTECTING AND CURING

A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and ACI 301 for hot-weather protection during curing.

B. Evaporation Retarder: Apply evaporation retarder to unformed concrete surfaces if hot, dry, or windy conditions.

C. Cure concrete according to ACI 308.1.

3.10 CONCRETE SURFACE REPAIRS

A. Defective Concrete: Repair and patch defective areas when approved by Architect. Remove and replace concrete that cannot be repaired and patched to Architect's approval.

3.11 FIELD QUALITY CONTROL

A. Testing and Inspecting: Owner will engage a qualified independent testing and inspecting agency to perform field tests and inspections and prepare test reports.

1. Testing Services: Tests shall be performed according to ACI 301.

END OF SECTION 03300S

SECTION 05120S - STRUCTURAL STEEL

PART 1 - GENERAL

1.1 SUMMARY

A. This section includes structural steel.

1.2 PERFORMANCE REQUIREMENTS

1. Connections: Provide details of simple shear connections required by the Contract Documents to be selected or completed by structural-steel fabricator

1.3 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Shop Drawings: Show fabrication of structural-steel components.

C. Welding certificates.

D. Mill test reports.

1.4 QUALITY ASSURANCE

A. Fabricator Qualifications: A qualified fabricator who participates in the AISC Quality Certification Program and is designated an AISC-Certified Plant, Category Sbd.

B. Welding: Qualify procedures and personnel according to AWS D1.1, "Structural Welding Code--Steel."

C. Comply with applicable provisions of AISC's "Code of Standard Practice for Steel Buildings and Bridges."

PART 2 - PRODUCTS

2.1 STRUCTURAL-STEEL MATERIALS

A. W-Shapes: ASTM A 992/A 992M.

B. Channels, Angles, M , S-Shapes: ASTM A 36/A 36M.

C. Plate and Bar: ASTM A 36/A 36M.

D. Cold-Formed Hollow Structural Sections: ASTM A 500, Grade B, structural tubing.

E. Steel Pipe: ASTM A 53/A 53M, Type E or S, Grade B.

F. Welding Electrodes: Comply with AWS requirements.

2.2 BOLTS, CONNECTORS, AND ANCHORS

A. High-Strength Bolts, Nuts, and Washers: ASTM A 325 (ASTM A 325M), Type 1, heavy hex steel structural bolts; ASTM A 563 (ASTM A 563M) heavy hex carbon-steel nuts; and ASTM F 436 (ASTM F 436M) hardened carbon-steel washers.

B. Shear Connectors: ASTM A 108, Grades 1015 through 1020, headed-stud type, cold-finished carbon steel; AWS D1.1, Type B.

C. Headed Anchor Rods: ASTM F 1554, Grade 36, straight.

D. Threaded Rods: ASTM A 36/A 36M.

2.3 PRIMER

A. Primer: Fabricator's standard lead- and chromate-free, non-asphaltic, rust-inhibiting primer.

2.4 GROUT

A. Metallic, Shrinkage-Resistant Grout: ASTM C 1107, factory-packaged, metallic aggregate grout, mixed with water to consistency suitable for application and a 30-minute working time.

2.5 FABRICATION

A. Structural Steel: Fabricate and assemble in shop to greatest extent possible. Fabricate according to AISC's "Code of Standard Practice for Steel Buildings and Bridges."

2.6 SHOP CONNECTIONS

A. High-Strength Bolts: Shop install high-strength bolts according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts" for type of bolt and type of joint specified.

B. Weld Connections: Comply with AWS D1.1 for welding procedure specifications, tolerances, appearance, and quality of welds and for methods used in correcting welding work.

2.7 SHOP PRIMING

A. Shop prime steel surfaces except the following:

1. Surfaces embedded in concrete or mortar. Extend priming of partially embedded members to a depth of 2 inches (50 mm).
2. Surfaces to be field welded.
3. Surfaces to be high-strength bolted with slip-critical connections.
4. Surfaces to receive sprayed fire-resistive materials.
5. Galvanized surfaces.

B. Surface Preparation: Clean surfaces to be painted. Remove loose rust and mill scale and spatter, slag, or flux deposits. Prepare surfaces according to the following specifications and standards:

1. SSPC-SP 2, "Hand Tool Cleaning."
2. SSPC-SP 3, "Power Tool Cleaning."

2.8 SOURCE QUALITY CONTROL

A. Owner will engage an independent testing and inspecting agency to perform shop tests and inspections and prepare test reports. Comply with testing and inspection requirements of Part 3, Article "Field Quality Control."

PART 3 - EXECUTION

3.1 ERECTION

A. Set structural steel accurately in locations and to elevations indicated and according to AISC's "Code of Standard Practice for Steel Buildings and Bridges."

B. Maintain erection tolerances of structural steel within AISC's "Code of Standard Practice for Steel Buildings and Bridges."

3.2 FIELD CONNECTIONS

A. High-Strength Bolts: Install high-strength bolts according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts" for type of bolt and type of joint specified.

B. Weld Connections: Comply with AWS D1.1 for welding procedure specifications, tolerances, appearance, and quality of welds and for methods used in correcting welding work.

3.3 FIELD QUALITY CONTROL

A. Testing Agency: Owner will engage a qualified independent testing and inspecting agency to inspect field welds and high-strength bolted connections.

END OF SECTION 05120S

SECTION 05310S - STEEL DECK

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:

1. Roof deck.
2. Composite floor deck.
3. Non-composite form deck.

1.2 SUBMITTALS

A. Product Data: For each type of deck, accessory, and product indicated.

B. Shop Drawings: Show layout and types of deck panels, anchorage details, reinforcing channels, pans, cut deck openings, special jointing, accessories, and attachments to other construction.

1.3 QUALITY ASSURANCE

A. Welding: Qualify procedures and personnel according to AWS D1.3, "Structural Welding Code - Sheet Steel."

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. ASC Profiles, Inc.
2. Canam Steel Corp.; The Canam Manac Group.
3. Consolidated Systems, Inc.
4. DACS, Inc.
5. D-Mac Industries Inc.
6. Epic Metals Corporation.
7. Marlyn Steel Decks, Inc.
8. New Millennium Building Systems, LLC.
9. Nucor Corp.; Vulcraft Division.
10. Roof Deck, Inc.
11. United Steel Deck, Inc.

12. Valley Joist; Division of EBSCO Industries, Inc.
13. Verco Manufacturing Co.
14. Wheeling Corrugating Company; Div. of Wheeling-Pittsburgh Steel Corporation.

2.2 ROOF DECK

A. Steel Roof Deck: Fabricate panels, without top-flange stiffening grooves, to comply with "SDI Specifications and Commentary for Steel Roof Deck," in SDI Publication No. 30, and with the following:

2.3 COMPOSITE FLOOR DECK

A. Composite Steel Floor Deck: Fabricate panels, with integrally embossed or raised pattern ribs and interlocking side laps, to comply with "SDI Specifications and commentary for Composite Steel Floor Deck," in SDI Publication No. 30.

2.4 NON-COMPOSITE FORM DECK

A. Non-composite Steel Form Deck: Fabricate ribbed-steel sheet non-composite form-deck panels to comply with "SDI Specifications and Commentary for Non-composite Steel Form Deck," in SDI Publication No. 30, with the minimum section properties indicated, and with the following:

2.5 ACCESSORIES

A. Mechanical Fasteners: Corrosion-resistant, low-velocity, power-actuated or pneumatically driven carbon-steel fasteners; or self-drilling, self-threading screws.

B. Side-Lap Fasteners: Corrosion-resistant, hexagonal washer head; self-drilling, carbon-steel screws, No. 10 (4.8-mm) minimum diameter.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install deck panels and accessories according to applicable specifications and commentary in SDI Publication No. 30, manufacturer's written instructions, requirements in this Section, and as indicated.

3.2 FIELD QUALITY CONTROL

A. Testing Agency: Owner will engage a qualified independent testing and inspecting agency to perform field tests and inspections and prepare test reports.

END OF SECTION 05310S

SECTION 05440S - PRE-ENGINEERED COLD-FORMED STEEL TRUSSES

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Pre-engineered cold-formed steel trusses.

B. Cold-formed steel framing accessories.

1.2 RELATED SECTIONS

A. Metal Decking.

B. Cold Formed Metal Framing.

1.3 DEFINITIONS

A. Truss Component Manufacturer: The maker of the components that will be assembled into trusses by the Truss Fabricator.

B. Truss Fabricator: The manufacturer who assembles the Truss Component Manufacturer's components into completed trusses.

C. Truss Designer: The design professional, individual or organization, having responsibility for the design of the trusses.

1.4 REFERENCES

A. AISI SG-671 - Specification for the Design of Cold-Formed Steel Structural Members; American Iron and Steel Institute; August 19, 1986 Edition with December 11, 1989 Addendum.

B. AISI RG-9518 - Design Guide for Cold-Formed Steel Trusses; American Iron and Steel Institute; December 1995.

C. ASTM A 370 - Standard Test Methods and Definitions for Mechanical Testing of Steel Products; 1997a.

D. ASTM A 653/A 653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 1999a.

E. LGSEA - Field Installation Guide for Cold-Formed Steel Trusses; Light Gauge Steel Engineers Association; October 1999.

F. LGSEA 551d - Design Guide for Construction Bracing of Cold-Formed Steel Trusses; Light Gauge Steel Engineers Association; February 1997.

G. LGSEA 551e - Design Guide for Permanent Bracing of Cold-Formed Steel Trusses; Light Gauge Steel Engineers Association.

1.5 SUBMITTALS

A. Shop Drawings: Detailed drawings prepared by Truss Fabricator bearing seal and signature of truss designer’s engineer (registered in the State in which project is located) that:

1. Indicate special components and installations not fully detailed in product data.
2. Indicate in the layout placement drawings the number, types, location, and spacing of trusses and other framing members.
3. Indicate details of truss loading, reactions, uplifts, support locations, material sizes and gauges, permanent truss web bracing, and splices as required for a complete installation.

B. Design Data: Results of design analysis, bearing the seal and signature of Truss Designer's engineer.

C. Installation Instructions: Truss Component Manufacturer's printed instructions for handling, storage, and installation of each item of cold-formed metal framing and each accessory specified in this section.

1.6 QUALITY ASSURANCE

A. Provide design of trusses by Truss Component Manufacturer, using design methodologiesrecommended in AISI and LGSEA references.

1.7 DELIVERY, STORAGE, AND HANDLING OF STEEL TRUSSES

A. Pack, ship, handle, unload, and lift shop products in accordance with Truss Component Manufacturer's recommendations and in manner necessary to prevent damage or distortion.

B. Store and protect products in accordance with Truss Component Manufacturer's recommendations and in manner necessary to prevent damage, distortion and moisture buildup.

PART 2 - PRODUCTS

2.1 COMPONENTS

A. Pre-Engineered, Cold-Formed Steel Trusses: Truss component system providing a complete horizontal framing system, ready for deck installation, meeting specified requirements

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install trusses in accordance with Truss Component Manufacturer's instructions and Truss Fabricator's shop drawings. Use correct fasteners.

B. Install all erection (temporary installation) bracing and permanent bracing and bridging before application of any loads; follow recommendations of LGSEA Field Installation Guide for Cold-Formed Steel Roof Trusses.

C. Install erection bracing.

1. Provide bracing that holds trusses straight and plumb and in safe condition until decking and permanent truss bracing has been fastened to form a structurally sound framing system.

D. Install permanent bracing and bridging as shown in the Truss Fabricator's shop drawings.

3.2 FIELD QUALITY CONTROL

A. Owner will provide testing laboratory to inspect field connections.

END OF SECTION 05440S

MECHANICAL, PLUMBING, ELECTRICAL AND TECHNOLOGY DESIGN INTENT

For

City of Nolensville, Police Headquarters
Nolensville, Tennessee

GENERAL

Purpose:

The purpose of this document is to establish the mechanical, plumbing, electrical and technology design basis for this project.

Project Description:

The project includes the new construction of an approximate 18,000 square foot main building that will include departmental use for the police department and an approximate 5,500 square foot annex building that includes workout facilities, VR simulator/training, K-9 area, and three (3) vehicular storage bays.

The following utilities are anticipated to be available: municipal water for domestic cold water and fire protection, sanitary sewer, storm water system, natural gas, power, and telephone entrance. Any upgrades to utility services shall be performed by the city, local utility or under the scope of civil engineering.

The facility shall also include an ICC compliant storm shelter attached to the main building.

Codes and Standards:

The City of Nolensville has adopted the following codes:

- 2024 International Building Code
- 2024 International Plumbing Code
- 2024 International Mechanical Code
- 2024 International Fire Code
- 2024 International Fuel Gas Code
- 2018 International Energy Conservation Code
- 2017 National Electrical Code

Several other guidelines and standards are referenced within the Code, and are partially listed below:

- ANSI/ASHRAE 62 - Ventilation for Acceptable Indoor Air Quality
- ASHRAE/IES 90.1 - Energy Efficient Design of New Buildings Except Low Rise Residential
- NFPA 13 - Installation of Sprinkler Systems
- NFPA 70 - National Electric Code
- NFPA 90A - Installation of Air Conditioning and Heating Systems
- SMACNA HVAC Duct Construction Standards, Metal & Flexible
- SMACNA HVAC Air Duct Leakage Test Manual

MECHANICAL SYSTEMS

Site Design Criteria

The following site design information has been obtained from ASHRAE – 2025 Handbook of Fundamentals.

Elevation: 587 feet MSL

Latitude: 36.12°

Longitude: 86.69°

Outdoor Design Temperatures:

Winter 5 Year Extreme -5.0° F

Summer (0.4%, July) 97.3° F Dry Bulb
76.1° F Wet Bulb

Occupancy Schedule

The main office areas within the police headquarters will operate 24 hours, 7 days a week. However, the areas listed below will operate during varying extended business hours. These spaces shall be provided with means of nightly setbacks to minimize system operation to what is required during occupied time periods.

- Spaces include lobby, community room, bag and tag, interview spaces, evidence processing and storage, quartermaster and related offices.

Indoor Design Temperatures

Refer to Exhibit 1 for the indoor design temperatures. All spaces shall be designed to maintain a relative humidity level of 50%.

Exhibit 1 - Indoor Design Conditions

Space	Winter Design, °F	Summer Design, °F
General Office Spaces	70	72
Command Offices	68	68
Evidence Storage	68	72
Fitness/Training Area	68	72
Courtroom/Group Room	70	72
MDF Room	72-76	72-76
Storage and File Rooms	68	75
Toilets	68	75
Corridors	68	75
Break Rooms	70	72
Mechanical Room	62	80
Electrical/Data Rooms	68	78

HVAC SYSTEMS

Hydronic Heating Water System

A hydronic heating water system for the building shall be installed within the mechanical room. The system shall include three (3) wall hung natural gas fired condensing boilers, three (3) primary circulating pumps, two (2) secondary pumps, low loss header/hydraulic air separator and expansion tank. The heating water system shall be set up for variable primary and variable secondary pump operation. The boilers shall be sized such that two (2) boilers will satisfy the maximum heating load of the building with the third boiler as backup. The wall hung boiler systems shall also serve the domestic water heat exchangers to generate the domestic hot water requirements for the building.

3" heating water supply and return piping shall be installed within the mechanical room. Heating water piping shall then be extended from the mechanical room throughout the main building to the individual zone VAV boxes.

Heating water accessories, including the chemical treatment system for the heating water system, shall be installed in the mechanical room. Combustion air and flue ductwork shall be routed through the adjacent exterior wall. Combustion air shall be CPVC construction and exhaust flue ducts shall be fully welded stainless-steel construction.

Equipment selections are listed below.

BLR – 1, 2, 3	
Manufacturer/Model #:	Laars Model LFTHW301NX
Fuel Type:	Natural Gas
Capacity (Input/Output):	301 MBH / 286 MBH
Minimum Turndown:	7.5:1
Electrical:	120 / 1 / 60
Accessories/Remarks:	• Common Vent Kit • BACnet Gateway • Cascade Function w/ DHW Sensor • Condensate neutralizer kit

HWP – 1, 2, 3	
Manufacturer/Model #:	B&G ecocirc XL 55-45
Performance:	25 gpm @ 25’
Control:	Variable Frequency Drive or ECM
Electrical:	1/2 HP, 208 / 1 / 60
Accessories/Remarks:	• Check Valve, Y-Strainer, and P&T Ports • Primary Boiler Pumps

HWP – 4, 5	
Manufacturer/Model #:	B&G ecocirc XL 55-45
Performance:	15 gpm @ 25’
Control:	Variable Frequency Drive or ECM
Electrical:	1/2 HP, 208 / 1 / 60
Accessories/Remarks:	• Check Valve, Y-Strainer, and P&T Ports • Secondary pumps feeding domestic water heater. Pumps shall be connected to BLR-2 and BLR-3.

HWP – 6, 7	
Manufacturer/Model #:	B&G Series e-90 1.5AB
Performance:	60 gpm @ 40’
Control:	Variable Frequency Drive or ECM
Electrical:	1-1/2 HP, 208 / 3 / 60
Accessories/Remarks:	• Check Valve, Y-Strainer, and P&T Ports • Secondary pumps feeding main building heating water system.

Air Separator
Model: B&G Rolairtrol Tangential Air Separator
Description: 3” Flanged Connections, Strainer

Air Handling Systems

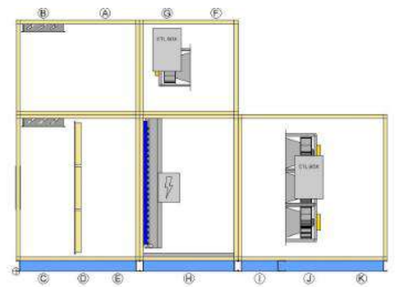
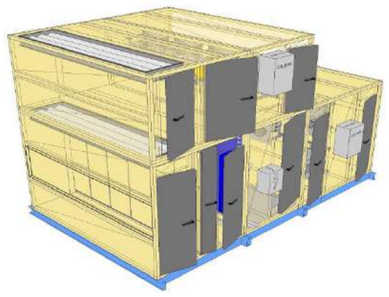
Main Building System

The primary mechanical air system shall consist of one (1) indoor stacked modular air handler unit that will be installed within ground floor mechanical room located on the east side of the building. The air handling unit shall be equivalent to Daikin Model CAH053GDCM indoor air handling unit with return fans, economizer dampers (return, relief, and min/max outside air dampers), MERV 11 prefilters, DX cooling coil, and supply fan array sections. The unit shall be configured such that the return fan section is installed on top of the pre-filter/DX coil/supply fan sections. The indoor unit shall be installed on a 4” concrete equipment pad. Install 2" condensate piping from unit drain connection to nearest floor drain.

A field fabricated outside air plenum shall be built up at the end of the unit, along the perimeter wall of the mechanical room, to allow connection of the indoor air handler to perimeter louver system equating to ~64 square feet of free area. Plenum walls shall be externally insulated with 3” thick fiber board insulation. A minimum of one (1) plenum access door shall be installed to allow access to the plenum area. Access door shall have piano hinges, a minimum of two locking latches, and shall have a square window 12” x 12” in size.

The air handling unit shall be paired with a remote condensing unit located on grade directly outside the mechanical room on the east side of building. The outdoor condensing unit shall be installed on a 6” thick reinforced concrete pad. Refrigerant piping shall be extended from the condensing unit to the indoor DX coil. All refrigerant piping shall be insulated with 2” think elastomeric insulation and shall be protected with weatherproof aluminum jacketing where piping is exposed to the exterior elements.

AHU-1	
Model	Daikin CAH053GDCM
Supply Fan:	• 19,000 cfm / 2.5” ESP / 20 HP (Total) / Direct Drive w/ ECM • Supply Fan Array with five (5) total fans. • Minimum 75% redundancy with one (1) fan down. • Voltage: 460/3/60, MCA: 23.6, MOP: 25
Return Fan:	• 15,000 cfm / 1.00” ESP / 10 HP (Total) / Direct Drive w/ ECM • Return Fan Array with four (4) total fans. • Minimum 75% redundancy with one (1) fan down. • Voltage: 460/3/60, MCA: 14.0, MOP: 15

DX Coil:	• EAT: 79.5° DB / 66.5° WB, LAT: 52.5° • Total Cap: 827.5 MBh, Sensible Cap: 546.6 MBh • 8-Row, 1/2” Copper Tubes w/ Aluminum fins • Full Face Intertwined circuits
Acessories/Options:	• Refrigerant Leak Detection Control panel (120/1/60 Power) • Double Wall construction with 2” insulation • Access doors in fan, coil, and filter sections. • Stainless steel drain pans • Convenience outlet and internal cabinet lights • Bipolar Ionization (self-cleaning) • MERV 11 Pre-Filters • Air Flow Monitoring Stations
Equipment Layout	 

CU-1	
Model	Daikin DCSA075
Nominal Tonnage:	• 75 tons
Electrical:	• Voltage: 460/3/60 • MCA: 126.9 • MOP: 150
Accessories:	• Minimum of two (2) circuits with appropriate valves to allow one circuit to continue to run when the other is down. • Four (4) Variable Scroll Compressors (down to 10%) • Low Ambient Cooling down to 0°F • Hail Guards

In general, medium pressure supply duct shall be distributed from the air handling unit throughout the main building to individual air terminal units located within the space. Low-pressure ductwork shall then be installed between the air terminal units and the air distribution devices located within the space/zone served. Manual volume dampers will be installed at major branches and taps for air balancing purposes. All concealed supply ductwork shall be externally insulated with fiberglass insulation to achieve a minimum installed R-value of 6 (approximately 2” – 2-1/2” thick).

Low pressure return ductwork shall be installed from the air handler or roof top unit to the throughout the building to pull air from each individual space. Manual volume dampers will be installed at major branches and taps for air balancing purposes. All concealed return ductwork shall be externally insulated with fiberglass insulation to achieve a minimum installed R-value of 6 (approximately 2” – 2-1/2” thick).

It is anticipated that many areas within the building will be open concept with fully exposed structure. In these areas, double wall ductwork within internal 2” thick insulation shall be provided for supply and return duct systems. Double wall ductwork shall be provided with a paint grip finish to allow elements to be painted to match other above ceiling elements. Refer to architectural ceiling plans/descriptions for applicable areas.

Approximately thirty-one (31) heating water reheat VAV boxes shall be installed in the medium pressure duct system to create individual temperature zones. Variable volume boxes shall be equivalent to Price SDV Single Duct Terminal units with integral heating water coils. Boxes shall have 1” foil faced insulation. Refer to mechanical exhibit 1 for zoning plan.

For spaces that have lay-in or hard lid ceiling, air distribution devices shall consist of 24” x 24” four-way plaque supply diffusers, aluminum construction, lay-in ceiling or hard ceiling type with integral opposed blade damper, Price model SPDA or equivalent. Return grilles will be 24” x 24” ceiling mounted, “egg crate” style, Price model 80 or equivalent.

All interrogation/interview rooms shall have security type air distribution devices, similar to Price model SG-SD. Supply and exhaust ductwork serving interrogation/interview rooms shall be provided with sound lagging and sound boots to minimize acoustic sound transmission to/from the surrounding spaces.

Sally Port Systems

The sally port within the main building shall be heated and ventilated. Heating shall be provided by means of natural gas fired radiant heaters hung around the perimeter of the space angled at 45° towards the occupied area. Ventilation of the space shall be provided by means of a wall mounted propeller ventilation fan interlocked with an exterior wall louver for intake air. The ventilation fan, VF-1, shall also be interlocked with a carbon monoxide and nitrogen dioxide gas senor installed on the wall and shall ramp the fan to full speed whenever gas levels exceed the acceptable PPM counts.

GUH-1,2	
Manufacturer/Model #	BigAss Fans IRH 80, Infrared Radiant Heaters
Performance:	Input: 80,000 btu/hr. 20'-0" linear length
Electrical	120 / 1 / 60
Accessories:	• Wall Mounted Thermostat • Individual through-the-roof vent kit • Chain Hanging Kit.

VF-1	
Manufacturer/Model #	Cook XPD
Performance:	2,000 cfm @ 0.1" ESP
Electrical	3/4 HP, 120 / 1 / 60
Accessories:	• Wall Mounted Thermostat • CO & NO2 Gas Detector to activate purge sequence. • Fan speed controller. • Wall mounted disconnect. • Wall sleeve, motor guard, and exterior louver with bird screen.

Annex Building Systems

The majority of annex building shall be heated and cooled by three (3) ducted heat pump split systems. The heated and cooled area shall include the locker/shower area, K9 area, indoor work out area, and VR simulator space. Two (2) systems, AC/HP-1 and AC/HP-2, shall serve the lockers, K9 kennel, and workout area while a dedicated third system, AC/HP-3, shall serve the VR Simulation Room. Further details are provided below for each split system.

The two units serving the workout and locker areas, AC-1 & 2, shall be hung from structure within the space above ceiling. Externally insulated low pressure supply ductwork shall then be extended throughout the space to distribute the air where ductwork is concealed by a ceiling. The fitness area will not be provided with ceiling. Within the fitness area supply air shall be distributed to the space by means of fabric ductwork similar to DuctSox. The dressing rooms and locker area having ceilings shall be provided with typical ceiling diffusers and grilles previously mentioned within the main building system descriptions.

The unit serving the VR simulator space shall be installed within the adjacent mechanical/electrical space. Low pressure supply ductwork and return ductwork shall be extended into the space to ceiling mounted diffusers and grilles. All supply and return ductwork shall be externally insulated with 2" fiberglass insulation with a minimum installed R-value of 6. Air distribution devices shall consist of 24" x 24" four-way plaque supply diffusers similar to Price model SPDA and return grilles shall be 24" x 24" ceiling mounted, "egg crate" style, similar to Price model 80.

AC/HP-1 & AC/HP-2	
Manufacturer/Model #	Indoor: Daikin AMST48BU1300 Outdoor: Daikin RZA48AAVJU
Nominal Tonnage:	4 tons
Airflow:	1550 cfm @ 0.8" ESP
Cooling Capacity:	48,000 btuh
Heating Capacity:	54,000 btuh
Electrical Info:	208/1/60 (separate connections for indoor and outdoor unit) MCA: 34, MOP: 35
Accessories/Remarks:	• MERV 11 filtration • Hail Guards • SS auxiliary drain pan with float sensor. • Digital Wall Mounted T'stat • BACnet Card for connection to BAS

AC/HP-3	
Manufacturer/Model #	Indoor: Daikin AMST36BU1300 Outdoor: Daikin RZA36AAVJU
Nominal Tonnage:	3 tons
Airflow:	1100 cfm @ 0.8” ESP
Cooling Capacity:	36,000 btuh
Heating Capacity:	42,000 btuh
Electrical Info:	208/1/60 (separate connections for indoor and outdoor unit) MCA: 34, MOP: 35
Accessories/Remarks:	• MERV 11 filtration • Hail Guards • Low Ambient Cooling (0°F) • SS auxiliary drain pan with float sensor. • Digital Wall Mounted T’stat • BACnet Card for connection to BAS

Ventilation and exhaust air requirements for the space shall be provided by an energy recovery ventilator (ERV) system installed indoors within a mechanical mezzanine space located above the K9 kennels. Ventilation air shall be supplied directly to space through a low-pressure duct system with duct mounted grilles in exposed areas and ceiling mounted diffusers in rooms with ceilings. Exhaust air shall similarly be pulled from each individual space through a low-pressure ductwork system constructed out of aluminum. In addition to general exhaust from space, exhaust ductwork shall be extended to the locker pods to exhaust all lockers at 25 cfm per locker.

All supply, exhaust, and outside air ductwork shall be fully insulated with 2” thick insulation with minimum installed R-value of 6.

Outside air and exhaust air shall be pulled/relieved from exterior wall louvers along the east and west side of the building. The louvers will be strategically placed to maintain a minimum of 15’-0” separation between the exhaust and the outside air louvers. Louver sizes are estimated to be ~12 ft^2 for outside air and ~8 ft^2 for exhaust air.

ERV-1	
Manufacturer/Model#	Oxygen8 H25IN-ERV-BP
Electrical Information:	• Connection #1: 460/3/60, MCA: 13, MOP: 15 (Fans) • Connection #2: 460/3/60, MCA: 28.2, MOP: 30 (Electric Heat) • Connection #3: 24 VAC (DOAS Controller)
Supply Air Stream:	2,200 cfm @ 1.50” ESP, 3.73” TSP ECM, Direct Drive Fan
Exhaust Air Stream:	2,000 cfm @ 1.50” ESP, 3.39” TSP ECM, Direct Drive Fan
Energy Recovery Enthalpy Core:	Summer Conditions (DB/WB, °F): • OA EAT: 94.8 / 74.8 • RA EAT: 75.0 / 63.0 • SA LAT: 82.1 / 68.0 Winter Conditions (DB/WB, °F): • OA EAT: 14.7 / 14.6 • RA EAT: 60.0 / 52.9 • SA LAT: 49.7 / 40.5
DX Coil Performance (Cooling):	5 Row, Aluminum Fins, Coper Tubes, 14 FPI EAT: 82.1° DB / 68.0° WB LAT: 54.5° DB / 52.8° WB Total Cap: 104.0 MBH Sensible Cap: 66.6 MBH
DX Coil Performance (Heating):	EAT: 49.7° DB LAT: 72.0° DB Sensible Cap: 53.0 MBH (Nom. Cap: 95.0 MBH)
Hot Gas Reheat Coil Performance:	2 Row, Aluminum Fins, Coper Tubes, 8 FPI EAT: 55° LAT: 74.5° Capacity: 46.2 MBH

Emergency Electric Heat:	18 kW Heater (15.5 kW required) EAT: 49.7°F LAT: 72.0°F SCR Controls
Accessories/Remarks:	• Unit shall be floor mounted with access on the top and one side. • SS auxiliary drain pan below unit with float switch • MERV 8 filters for exhaust and outside air inlets to the enthalpy core. • Integration Kit to connect unit to Daikin VRV outdoor condensing unit. • R-32 Leak Detection System

ERV-HP-1	
Manufacturer/Model#	Daikin REYA96AAYDA
Electrical Information:	460/3/60, MCA: 17.5, MOP: 20
Performance:	Nominal 8 Tons 96 MBH Cooling 108 MBH Heating
Accessories/Remarks:	• Heat Recovery Style • Hail Guards • Modulating Inverter Compressor

The outdoor heat pump condensing units shall be installed on grade on the west side of the building on concrete equipment pads. Refrigerant line sets shall be sized by the manufacturer, shall be fully insulated with elastomeric insulation, and provided with aluminum weatherproof jacketing where exposed to the outdoor environment.

The attached vehicular storage bay area shall be heated and ventilated. Heating shall be provided by three (3) infrared radiant unit heaters installed along the perimeter walls and between each vehicle bay. Heaters shall be installed at approximately 15’ above finished floor and shall be controlled via a wall mounted thermostat within the space.

A wall mounted propeller ventilation fan, VF-1, shall be installed in conjunction with an intake louver installed in the exterior wall. During normal operation, the ventilation fan shall run at a minimum speed to provide the minimum required ventilation air to space. The fan shall then be controlled by a wall mounted thermostat to maintain space temperature by ramping the fan up to max design air flow. The ventilation fan shall also be used for emergency purge situations when high carbon monoxide and/or nitrogen dioxide levels are detected within the space.

GUH-3,4,5	
Manufacturer/Model #	BigAss Fans IRH 80, Infrared Radiant Heaters
Performance:	Input: 80,000 btu/hr 20’-0” linear length
Electrical	120 / 1 / 60
Accessories:	• Wall Mounted Thermostat • Individual through-the-roof vent kit • Chain Hanging Kit.

VF-2	
Manufacturer/Model #	Cook XPD
Performance:	2,000 cfm @ 0.1” ESP
Electrical	3/4 HP, 120 / 1 / 60
Accessories:	• Wall Mounted Thermostat • CO & NO2 Gas Detector to activate purge sequence • Fan speed controller. • Wall mounted disconnect. • Wall sleeve, motor guard, and exterior louver with bird screen.

Alternate: Provide one (1) additional radiant gas unit heater, similar to GUH-3,4,&5 to allow one additional vehicle bay to be included for a total of three (3) bays.

Exhaust Systems

General exhaust for the building shall be provided by multiple exhaust fans installed above the ceiling near the perimeter of the building. Exhaust air shall be discharged to the exterior through exterior louvers.

Exhaust fan, EF-3, will be connected to multiple pieces of owner furnished equipment such as drying cabinet, task exhausters (qty. of 2), and lockers in addition to the spaces served.

EF-1 (General Exhaust - West)

Model:	Cook 120SQN17D091VF
Fan Description:	Inline
Performance Requirements:	500 cfm @ 0.75" ESP
Electrical:	1/4 HP, 120/1/60, ECM
Accessories/Options:	

- Motorized Backdraft Damper
- Fan Speed Controller
- Prewired Disconnect

EF-2 (General Exhaust - East)

Model:	Cook 135SQN17DO92VF
Fan Description:	Inline
Performance Requirements:	1200 cfm @ 0.75" ESP
Electrical:	3/4 HP, 120/1/60 ECM
Accessories/Options:	

- Motorized Backdraft Damper
- Fan Speed Controller
- Prewired Disconnect

EF-3 (Evidence storage, Bag & Tag, Processing)

Model:	Cook 165RH17D (VF)
Fan Description:	Roof Mounted Upblast
Performance Requirements:	2000 cfm @ 1.0" ESP
Electrical:	3/4 HP, 120/1/60 ECM
Accessories/Options:	

- Motorized Backdraft Damper
- Fan Speed Controller
- Prewired Disconnect
- 18" tall roof curb for sloped roof applications.

Special and Ancillary HVAC Equipment

Storm Shelter Ventilation:

One storm shelter is being constructed as part of the new building. The storm shelter will be ventilated by means of natural ventilation. Approximately nine (9) square feet of louver area will be installed within the exterior walls of the storm shelter. Two (2) louvers shall be installed with one (1) being located within 46" of the floor (~4 sqft) and one (1) being installed a minimum of 72" above the floor (~5 sqft). The louvers shall also be located on opposite sides of the storm shelter to help create a good cross airflow within the space. Louvers shall be meet the missile impact ratings required by ICC 500 similar to Ruskin model XP500WD.

Electrical/Comm/MDF Room HVAC:

The main building electrical room, communication room, and MDF room shall be served by individual air terminal unit equivalent to Price SDV Single Duct Terminal units. Terminal units shall be cooling only and shall not include a hydronic reheat coil.

Humidification:

Room direct humidification systems shall be installed in the Evidence Storage and within the Armory to maintain proper humidity levels within the space. Room direct humidifiers shall be equivalent to Dristeem Vapormist unit with integral space distribution unit. Each humidifier shall have a 2-kW heating element (480/1/60) providing up to 6 lb/hr. of steam to the space. Each humidifier system shall be provided with a wall mounted humidistat/control that is connected to the building automation system.

HVAC Controls

All controls shall be electronic DDC controls. No pneumatic controls will be allowed. A building automation system (BAS) will be installed to monitor all HVAC systems and associated equipment described in this narrative. A full graphics package shall be provided showing all building systems, applicable data and sensor readings, and trend data.

The main air handling systems shall be provided with discharge air temperature control for multi-zone VAV operation.

Individual VAV boxes shall be controlled by means of a wall mounted programmable space thermostat, with an occupancy schedule programmed into the controls. Each thermostat shall be set with a maximum and minimum temperature set points, while allowing occupants some control of their space temperature. Thermostats shall have auto switch over from heating to cooling modes.

A demand control ventilation (DCV) sequence shall be installed for the large meeting areas which include courtroom, large classroom, briefing room, conference room, etc. The DCV sequence shall modulate the outside air supplied to the main air handling system (AHU-1) and the air terminal units serving the space to maintain the appropriate carbon dioxide levels within each space. A carbon dioxide sensor shall be installed within each space to continuously monitor the carbon dioxide levels within the space.

All general exhaust fans shall be interlocked to operate with the associate air handler or roof top unit.

The following miscellaneous items shall also be fully integrated and monitored through the building automation system:

- Lighting controls and occupancy sensors
- Domestic Water Heaters
- Domestic Water Recirculation Pumps
- Generator

END OF SECTION

PLUMBING AND FIRE SUPPRESSION SYSTEMS

Scope of Work

The plumbing systems shall include domestic water, sanitary waste and vent, shop compressed air, and natural gas for the Main Police Building as well as domestic water and sanitary waste and vent and compressed air for the Annex Vehicle Storage Building that includes vehicle wash equipment.

The fire suppression systems for the Main Police Building shall include wet-pipe automatic sprinkler system and a double interlocked pre-action automatic sprinkler system. The wet-pipe system shall provide complete coverage of the interior portions of the building except for the MDF-Radio server room. The MDF-Radio server room will be protected by a double interlocked pre-action system. The interior spaces in the annex Vehicle Storage building will also have complete coverage by a wet-pipe automatic sprinkler system.

The site shall be seismically braced according to the Site Design Category for piping and equipment.

Sanitary Drainage and Vent Systems

Multiple sanitary waste and vent risers and sanitary drains will be provided to serve the Main Police Building. Automobile traffic rated trench drains will be installed in the Annex vehicle storage bays (one per bay) and the Main Police Building sallyport (two in sallyport). An oil/water separator will be provided to receive the discharge from these trench drains. The outlet from the oil/water separator shall connect to the Police/Dispatch Building sanitary building sanitary sewer. The Main Police Building sanitary building drains will be routed out from the building as a 4-inch building sanitary sewer where it will be extended for connection to the public sewer. Cleanouts shall be wall and floor type. If required in spaces where evidence is processed, such as in the Lab, Bag & Tag, and Evidence Tech spaces, cleanouts shall be wall type only.

The Main Police Building sanitary system shall include sanitary vents from the fixtures. The fixture vents will be connected and routed vertically to be extended and terminated to atmosphere through the roof. Vent terminations shall be a minimum 3” NPS prior to roof penetration. Vents through the roof shall be positioned behind the mechanical equipment screen walls and/or out of line-of-site as much as possible.

The Annex Vehicle Storage Building will be served by a 4” sanitary sewer. Trench drains will be installed in each of the vehicle bays in the storage building. The waste stream from both will flow through an oil/water separator prior to connecting to the public sewer system.

The sanitary waste system for vehicle storage building shall include a sanitary vent that will extend and terminate to atmosphere through the roof.

Sanitary Drainage and Vent Specifications

Sanitary waste piping below grade shall be ASTM D 2665 solid wall schedule 40 PVC drainage pipe and fittings. Joints shall be solvent welded in accordance with ASTM D 2665.

Sanitary waste and vent piping above slab shall be CISPI 301, ASTM B88 no-hub cast iron using ASTM C 1277 medium duty stainless steel clamp and shield assemblies with ASTM C 564 rubber gaskets at the joints.

Storm Sewer

Roof drainage for the Main Police Building and Annex Vehicle Storage Building will be by gutters and downspouts.

Domestic Cold and Hot Water

A 2-inch water service shall be provided to serve Main Police Building from the 2-1/2-inch site water main. Reduced pressure backflow preventers shall be installed on site downstream of the meter in a heated enclosure. Refer to the Civil Engineers documents for additional information.

A 2-inch water branch downstream of the site water meter and backflow preventer will be provided for the Annex Vehicle Storage Building. A line sized reduced pressure backflow preventer will be installed inside the vehicle storage building.

In the event the water pressure in the public water main serving the site is in excess of 60 psig. A duplex, high/low flow pressure reducing valve shall be installed in the water main where it enters the Main Police Building. A single pressure-reducing valve shall also be installed in the water main where it enters the Annex Vehicle Storage Building.

Additional reduced pressure principle backflow preventers will be provided as required throughout for equipment that presents a cross-connection hazard such as the heating hot water boilers and the K9 drinking and wash stations. Each of the backflow preventers shall be equipped with an additional ball valve on the inlet side of the strainer.

Provide two (2) stacked, high efficiency indirect water heater equal to LAARS-STOR model LS-SS-30-L in the Main Police Building to produce 140º F hot water. The hot water will flow through a digital mixing valve equal to Armstrong model DRV25 and be distributed for general purposes of domestic uses in the Main Police Building. The water heater and mixing valve will be installed in the mechanical room. Two (2) point-of-use, thermostatically controlled, instantaneous, natural gas water heaters shall be provided for the dressing rooms, laundry room and K-9 wash area in the Annex Vehicle Storage Building.

The domestic water system piping will be installed to efficiently supply water to all points of use. Service valves will be provided in all branch lines as close to the mains as possible to allow isolation of fixture and equipment groups in one area for service without affecting service to other areas in the building. Any water piping installed above evidence processing, evidence storage areas, the server room, dispatch, or dispatch training shall include secondary drain pans with “telltale” drains terminated to discharge in conspicuous locations outside the sensitive spaces.

The domestic hot water system will have a return system that includes a Grundfos or equal in-line stainless steel circulating pump. The circulating pump and piping will ensure hot water is available in a timely manner to all fixtures and equipment requiring hot water.

Domestic Water System Specifications

Pipe, fittings, valves, solder, flux, etc. used in the domestic cold and hot water systems shall comply with NSF 61 and NSF 372 for maximum allowable lead content.

Domestic potable water piping below slab shall be cement-lined ductile iron, AWWA C151, with restrained joint fittings (3-inch and larger) and ASTM B88, Type K, seamless rolled soft copper tubing with no joints (2-1/2-inch and smaller).

Domestic water piping above slab shall be ASTM B88, Type L, hard drawn copper. Fittings shall be ANSI/ASME B16.23 cast brass or ANSI/ASTM B16.29 wrought copper. Joints shall be soldered to meet ASTM B828 using ANSI/ASTM B32 solder, Grade 95TA containing no lead.

Solid ball, full-port ball valves will be used for shut-off valves.

All domestic water piping, cold and hot, will be insulated using fiberglass insulation with all-service jacket. Insulation thickness shall be as required by ASHRAE 90.1, but no less than 1-inch for domestic hot water supply and return and 1/2-inch for domestic cold water.

Plumbing Fixtures

Water closets shall be 1.28 gallons per flush, wall hung, vitreous china, flush valve type as manufactured by American Standard, Kohler, Toto, or Zurn. The flush valves shall be Toto or equal DC-powered sensor operated style that include automatic power generation and storage eliminating the need to replace the batteries.

Urinals shall be 0.125 gallon per flush, wall hung, vitreous china, AC-powered sensor operated flush valve type as manufactured by American Standard, Kohler, Toto, or Zurn. The flush valves shall be Toto or equal DC-powered sensor operated style that include automatic power generation and storage eliminating the need to replace the batteries.

Vitreous china lavatories shall be American Standard, Kohler, or Zurn wall hung and/or drop-in style as required.

A detention style anti-ligature stainless steel combination water closet and lavatory fixture shall be installed in the interview toilet room. Fixtures shall include electronic flush control for the water closet with the switch on the wall outside the toilet room.

Countertop breakroom and hand wash sinks shall be drop-in 18-gauge stainless steel by Elkay or Just. Sinks in the lab and “bag and tag” spaces will be integral with the epoxy countertops. Breakroom sinks shall include deck top air gap fittings and auxiliary connections on the sink drain tailpieces for connecting the drain from an adjacent dishwasher.

Faucets for lavatories and sinks Chicago Faucet or equal battery-powered sensor operated style with above deck temperature control. An ASSE 1070 point of use temperature control device with integral inlet check valves shall be provided with the outlet piped to the hot water side of the faucet. All temperature control devices shall be set for a maximum outlet temperature of 110° Fahrenheit.

Shower valves shall be pressure balancing type equal to Symmons “Temptrol” with inlet stops and checks with two 1.5 GPM shower heads, fixed and handheld, supplied through a diverter valve.

Mop basins in the Janitor’s Closets shall be terrazzo floor basins by Stern-Williams or equal with wall hung faucets with integral stops, cold and hot water check valves, and elevated spill proof pressure type vacuum breakers.

Boot wash for staff entry vestibule in the Police/Dispatch Building shall have a 48-inches long by 18-inches wide by 6-inches deep terrazzo floor mounted basin comparable to those manufactured by Acorn or Stern-Williams and faucet by T&S Brass or Chicago Faucet with flexible spray hose and integral vacuum breaker.

Water coolers shall be Elkay or equal wall-hung, stainless steel, dual height, with bottle filler and integral chiller.

Combination emergency shower/eyewash fixtures by Guardian or equal with dedicated mixing valves for each fixture will be installed in evidence storage. Units shall include ceiling mounted showers and recessed/pulldown style eye/face wash with integral drain pan. The mixing valves shall be surface mounted on the wall in the ceiling space directly above the fixture they serve.

Recessed water connection boxes by Oatey or equal with quarter turn shut-off valves and integral water hammer arrestors shall be provided for ice makers, coffee makers and refrigerator water dispenser supplies in the breakrooms and concessions areas of the Police/Dispatch Building.

A recessed water and drain connection box by Oatey or equal with quarter turn shut-off valves, integral water hammer arrestors and 2-inch drain outlet shall be provided for the clothes washer in Annex Vehicular Storage Building.

A recessed drain connection box by Oatey or equal, with a 2-inch drain outlet shall be provided for the humidifiers located in Armory and Evidence rooms in the Police/Dispatch Building with ¼” water supply lines.

Electronic trap primer valves shall be provided to automatically maintain the trap seals in all floor drains and trenches that do not have an active waste stream associated with them. Trap primers shall be installed above the ceilings in finished areas or exposed on the wall 10-feet above finished floor in areas without drop ceilings near the drains they serve. The trap primer outlet piping shall be routed down concealed inside the wall on which they are mounted, extended to below finished floor and connected to the drains they serve.

The plumbing contractor shall furnish and install faucets, supplies and stops, mixing valves, drain tailpieces and p-traps, and all related trim for the fixtures.

All accessible fixtures shall comply with the Americans with Disabilities Act (ADA) and ICC/ANSI A117.1 (2017 edition).

Colors for all vitreous china and solid surface fixtures shall be selected by the architect.

All fixtures shall be commercial grade.

Compressed Air System

Compressed air shall be provided for use in the Main Police Building Sallyport, Armory and Bag-and-Tag spaces as well as for vehicle maintenance in the Annex Vehicle Storage Building.

A 4-horsepower air compressor package with refrigerated dryer, receiver, automatic drain, and acoustical-enclosure, equal to Kaeser Compressors Airtower model 4C shall be installed in the HVAC/Boiler/H2O Heaters Storage space in the Police/Dispatch Building and shall be piped to supply a hose reel in the Sally-port and a workbench station connection in the Armory (qty of 3 outlets) and Bag-and-Tag rooms (qty of 2 outlets). Equipment and installation shall include particulate filters and air lubricator.

A 5-horsepower air compressor package with refrigerated dryer, receiver, automatic drain, and acoustical-enclosure equal to Kaeser Compressors Airtower model 5C shall be installed in Plumbing/Mechanical room in the Annex Vehicle Storage Building and shall be piped to supply hose reels in the service bays and two (2) workbench connections in the Storage and Repair areas. Equipment and installation shall include filtration package(s).

Natural Gas System

Natural gas will be brought to the site and a service regulator/meter in the service yard at the Main Police Building. The service regulator and meter shall be sized for the total Main Police Building and Annex Vehicle Storage Building demand at 2 psig. The demand shall include an emergency generator, heating hot water boilers and domestic water heaters at the annex building and unit heaters in the Annex Vehicle Storage Building. The contractor shall coordinate with the gas utility and pay all costs and fees for the installation of the new gas service, service regulator, and meter. The contractor shall furnish and install pad for the gas meter and all piping and appurtenances downstream of the meter.

Natural Gas Specifications

Natural gas piping below grade shall be polyethylene (PE) ASTM D 2513, SDR11, with PE fittings, ASTM D 2683.

Natural gas piping above grade shall be Schedule 40, black steel, ASTM A53. Pipe and fittings shall have threaded joints.

Fire Protection System

A 6-inch fire protection water service will be extended to the Main Police Building from the site water main. A backflow preventer assembly will be installed on site in a heated enclosure.

A 6-inch fire protection water service branch downstream of the site backflow preventer assembly will be provided for the Annex Vehicle Storage Building.

Automatic sprinkler systems will be provided to fully cover the Main Building and the Annex Vehicle Storage Building from two separate risers.

In addition, the MDF-Radio server room will be protected by an electric/pneumatic double interlocked pre-action system supplied from a dedicated deluge valve and air compressor.

The porch area and storm shelter shall be protected by the use of horizontal dry sidewall sprinklers with extended coverage served from the adjacent heated/cooled area from the wet pipe system.

The pre-action system shall be furnished complete, with valves, piping, sprinkler heads, heat detectors, smoke detectors, control panel, etc. by the fire suppression contractor.

All the automatic sprinkler systems (wet and pre-action) shall be hydraulically calculated and designed to provide 100% coverage in accordance with NFPA-13. Most spaces will be classified as Light Hazard occupancies requiring a design density of 0.10 gallons per minute per square foot (gpm/sg. ft.) over most remote 1500 square feet (sq. ft.); with the exception of spaces such as mechanical equipment rooms, electrical equipment rooms, storage rooms, janitor's closets, and shelled spaces which will be Ordinary Hazard Group I (OH1). Areas that are in the OH1 category require a design density of 0.15 gpm/sq. ft. over most remote 1500 sq. ft. Attic spaces shall be protected.

Recessed sprinkler heads shall be used throughout in spaces with drop ceilings except as follows:

Areas accessible to the public:	Concealed with flat cover plate factory painted to match the ceiling in which it is installed.
Suspect Interview Areas:	Institutional heads (Tyco Raven)

All systems shall be designed in accordance with the requirements of the Owner's Insurance Underwriter, the Fire Code, NFPA 13, and all requirements of the state and local Authorities Having Jurisdiction. Where the requirements of the Insurance Underwriter are more stringent than the other codes, standards, and Authorities Having Jurisdiction the requirements of the Insurance Underwriter shall be met.

Fire Protection Specifications

Below slab-on-grade piping shall be cement lined ductile iron. Fittings shall be ductile iron with restrained joints.

Above slab piping shall be as follows. Schedule 40, black ASTM A135 or A795 for piping sized 2-inch and smaller; Schedule 10 for pipe sizes 2½-inch through 6-inch. All pre-action system piping and fittings downstream of the dry-pipe and deluge valves shall be hot-dipped galvanized. Joints for Schedule 40 piping may be threaded or grooved. Joints for all piping other than Schedule 40 shall be rolled-groove type or welded.

END OF SECTION

ELECTRICAL SYSTEMS

All electrical systems shall be designed and constructed to meet the requirements of state and local codes and any additional amendments or requirements of the Authority Having Jurisdiction. These systems will also follow the requirements of the codes and standards listed in the Code Reference section of this narrative.

Utility Infrastructure and Service Entrance

The new facility will require extension of the utility company distribution system to a new utility-owned, pad-mounted transformer. Assume the primary electrical service will consist of (2) 4" PVC underground conduits that will be installed from a new utility company junction box to the pad-mounted transformer. The transformer pad and supporting foundations will be provided by the contractor in conformance with utility company specifications. Assume the utility metering will occur on the exterior of the building adjacent to the electrical room or at the pad mounted transformer.

Service and Metering Responsibility Matrix		
Item	**Furnished by**	**Installed by**
Trenching and backfilling	Contractor	n/a
Primary conduits from utility's distribution system to pad-mounted transformer	Contractor	Contractor
Primary cables from utility's distribution system to pad-mounted transformer	Utility	Utility
Pad-mounted transformer	Utility	Utility
Transformer pad	Contractor	Contractor
Secondary conduits and cables from transformer to Owner's main distribution panel	Contractor	Contractor
Meter can	Contractor	Contractor
CT cabinet	n/a	n/a
Instrument Transformers (CTs and PTs) in CT cabinet	Utility	Utility
Meter	Utility	Utility
***Note**: Confirm all requirements with local utility company.*		

Underground conduits will be at least Schedule 40 PVC with 90° Schedule 80 elbows having no less than 24" radius. Underground primary service conduits shall be installed at a minimum of 48" below grade. Underground secondary service conduits shall be installed at a minimum of 30" below grade. Install 125-lb mule tape in all empty conduit.

Power Distribution

The Police Station will be served by a new 277/480-volt, 600-amp service and main disconnect breaker in panel MDP. A new main electrical room will be constructed to house the main service panel, generator disconnects, automatic transfer switches, and distribution panelboards to serve both the main building and annex. Electrical room will also house lighting control panel and step-down transformers.

The system of circuit breakers shall coordinate for all time ranges above 0.1 seconds. Contractor shall provide a coordination study to demonstrate coordination. Contractor shall provide an arc-flash study in conjunction with the coordination study.

Provide a 125-amp 480V feeder to the Annex Building. The building will have a 45 kVA transformer and 150-amp panelboard for optional stand-by power and 100A 480V panel for emergency power system.

Emergency Power

The Emergency Power System will originate with 300KW generator sized to serve the entire building and annex through two automatic transfer switches. Emergency generator will be located outside in a weatherproof sound attenuated packaged enclosure. The generators shall be fed by natural gas from the local utility. The sound attenuation criteria is 75 dBA at 23 feet. The generator enclosures shall be large enough to house the critical grade silencer. The emergency generators shall have the necessary accessories to be NFPA 110 compliant. Furnish and install a new annunciator panel and emergency stop push buttons.

The main distribution panelboard MDP to be 600-amp main circuit breaker (main service disconnect) and will house molded case circuit breakers with adjustable solid state trip elements. Provide SPD protection at MDP panel.

Provide the following new automatic transfer switches:

- Emergency Power System (NEC 700) (1) 70 A, 4-pole, Bypass Isolation
- Legally Required Standby Power (NEC 701) (1) 600 A, 4-pole, Delay Program Transition

Automatic transfer switches shall be equal to ASCO 7000 series.

Provide a new 600-amp dual-purpose load bank and temporary generator docking station, equal to Trystar "DBDS" series. Docking station shall have kirk-key interlock between enclosure cabinet and generator breaker. Docking station shall have integral shunt-trip breaker upstream of the load bank connections and shall be operated by automatic transfer switch's generator start terminals. Provide cam-lock cable connectors.

Surge Protective Devices

Surge protection devices (SPD) will be provided and installed directly adjacent to its associated panel with the minimum cable length possible, served from a 30-amp 3-pole branch circuit breaker to act as a disconnecting means. All SPD devices will be manufactured by Surge Suppression, Inc. Device for main distribution panel will be model LSED3Y2K-47. Provide SPD at each distribution panelboard (400A & larger) with model CDLB3Y2KN-47. Provide SPD at branch panels (less than 400A) with model CKYB3Y1KN-47. SPD devices shall be mounted immediately below panelboards.

Surge protection devices shall be provided and installed for all panelboards within the facility. Additionally, in-line surge protection shall be provided and installed for the following:

1. Each exterior fire alarm circuit – PIV's, double detector check valves, etc.

2. Individual in-line surge protection on both ends of the generator start conductors (i.e. where the conductors enter the building and where the conductors enter the generator enclosure).

3. Each site sign.

4. Individual in-line surge protection on both ends of the generator annunciator wiring.

Interior Lighting

General illumination will consist of suspended linear direct/indirect light fixtures in areas without ceilings and recessed direct/indirect in areas with ceilings. Linear wall wash fixtures will be used to accent the walls in public areas. Decorative pendants and sconces will be used in some of the public areas. All lighting shall utilize 4000K LED sources, with a minimum color rendering index of 90 and integral drivers dimmable to 10%. All lighting shall be circuited to 277V.

Refer to the Architectural narrative for the lighting allowances.

Egress lighting throughout the building and storm shelter lighting fixtures will be powered by emergency power system. Exit signs and storm shelter lighting will be equipped with battery backup and UL924 relay.

Lighting Controls

Lighting controls to be Lutron Vive System to include hubs for lighting controls. Lighting controls shall include daylight harvesting in exterior zones, occupancy sensors throughout individual spaces as well as the Corridors. All normally occupied spaces will have 0-10 volt dimming controls.

Provide a lighting relay panel for the exterior site lighting control.

Exterior Lighting

Parking lot lighting will include pole mounted LED area lighting fixtures on 25' steel poles. Fixtures in the canopies will be recessed downlights with LED drivers. All exterior lighting, including illuminated exterior signage, shall be controlled via a user-programmable lighting control panel, with photocell and astronomical time clock.

Provide lighting in the covered parking area. Assume surface mounted fixtures.

All exterior lighting will follow IESNA lighting level recommendations.

In-grade or building-mounted fascia accent lighting, utilizing high-output LED sources, will be included, as allowed by local lighting ordinances.

All exterior area lighting fixtures will be full cutoff with zero intensity at or above horizontal (90 degrees above nadir) and no more than 10% of lamp lumens at or above 80 degrees above nadir.

Fixtures at exits will have dual light power source with battery backup.

All LEDs will have 4000K color temperature with a minimum color rendering index of 80.

Specialty Exterior Lighting

- Provide pedestrian scale lighting along the walkway from the secure parking lot.
- Provide pedestrian scale lighting at the outdoor Break Area.
- Provide ground mounted flood lights at the monument signage.
- Provide ground mounted flagpole flood lights at two locations.

Fire Alarm System

A fire alarm system will be provided for the project. The control panel shall be a Notifier "6808" as approved by the engineer. All devices shall be addressable. Devices will consist of manual pull stations, smoke detectors in corridors and storage rooms, duct-mounted smoke detectors in supply and return ducts, automatic sprinkler flow and tamper switches and chime/strobes. Chime/strobes shall be field-selectable between 15 and 110 candelas and shall meet ADA standards. Strobe devices shall be wired on separate circuits from the chimes. The system shall include an auto-dialer and two remote LCD annunciator panels, locations to be determined. The fire alarm system shall be installed in EMT stub-ups; the horizontal cabling will be installed in the cable tray system or J-hooks

above accessible ceiling space. Provide SPD protection for all circuits leaving/entering the building.

Ceiling-mounted smoke detectors will be located on 24-30' centers in egress corridors and within 15' of ends of corridors, and also in areas open to corridors and within 5' of any held-open doors at smoke barriers. Additional smoke detectors will be required in storage rooms, soiled utility/trash rooms, electrical rooms, and communication rooms. Smoke detector bases will be addressable in lieu of using addressable detector heads.

Duct-mounted smoke detectors will be required in supply and return of all air handling units and at ducts crossing smoke barriers. Additional detectors will be required at any smoke dampers and as determined by the HVAC system.

Notification devices will include xenon strobe visible signal appliances according to ADA guidelines: spaced approximately 50’ on center in corridors and within 15' of corridor ends, and additionally located throughout the building in all common areas such as office areas, waiting rooms, conference rooms, break rooms, public toilets, etc..

Audible signal notification devices will be electronic horn in all spaces.

Additional fire alarm connections will be made to the dry pipe automatic sprinkler system.

HVAC System Equipment

The air conditioning system for the main building shall be central station air handling unit with remote condensing unit.

The heating source will be hot water re-heat coils.

Allow for the following provisions for main building:

- VAV box control-voltage transformers – Provide (2) 120V, 1P, 20A circuits and 500 VA transformers.
- Boilers BLR – 1,2,3 – Provide (3) 120V, 1P, 20A circuits.
- Hot Water Primary Pumps HWP -1,2,3 – Provide (3) 208V, 1P, 15A circuits.
- Hot Water Secondary Pumps HWP - 4,5 – Provide (2) 208V, 1P, 15A circuits.
- Hot Water Secondary Pumps HWP – 6,7 – Provide (2) 208V, 3P, 15A circuits.
- Air handling unit AHU-1 – Provide (1) 480V, 3P, 25 circuit for supply fans, and (1) 480V, 3P, 15A circuit for return fans.
- CU-1 Provide (1) 480V, 3P, 150A circuit
- Gas-fired Unit Heaters GUH-1 & 2 – Provide 120V, 1P, 20A circuits each for Sally Port.
- Ventilation Fan VF-1 – Provide (1) 120V, 1P, 20A circuit for Sally Port.
- General Exhaust Fans EF-1, 2, 3 – Provide (3) 120V, 1P for fractional HP fans.

For Annex Building the following provisions apply:

- AC/HP-1 & AC/HP-2 Provide (2) 208V,1P, 35A circuits with separate connections to indoor and outdoor units
- AC/HP-3 provide (1) 208V,1P, 35A circuits with separate connections to indoor and outdoor units
- ERV-1 - Provide (1) 480V, 3P, 15A circuit and (1) 480V, 3P, 30A circuit.
- ERV-HP-1 - Provide (1) 480V, 3P, 20A circuit.
- Gas-fired Unit Heaters GUH-3, 4, 5 – Provide 120V, 1P, 20A circuits each for vehicle bays.
- Ventilation Fan VF-1 – Provide (1) 120V, 1P, 20A circuit for vehicle bays.
- EF-1 - Provide (1) 480V, 3P, 15A circuit
- Gas-fired Unit Heaters GUH-1 & 2 – Provide 120V, 1P, 20A circuits each
- Exhaust Fans EF-2,3 & 4 – Provide (3) 120V, 1P, 20A circuits.

Refer to the Mechanical systems narrative and equipment attachments for specific equipment details.

EV Charging Stations

Provide future infrastructure for four 208-volt, 80-amp circuits to parking area for EV charging stations.

Grounding and Bonding

The electrical service will be grounded via grounding electrode conductor to a tri-pod grounding arrangement.

Complete grounding system shall be installed per NFPA 70, Article 250. All circuits shall include insulated ground conductor. All conduits, boxes, and enclosures shall be bonded to the grounding system.

Distribution transformers will have their secondaries grounded to building structural steel and the facility grounding system.

Provide exposed 2’x18”x1/4” copper ground busses in all electrical rooms, IT/Comm room. These ground buses shall be interconnected with a minimum #2/0 insulated grounding conductor.

Technology Systems

Provide a conduit / backbox system for the following owner furnished systems:

- Telephone / Data System
- Computer System
- CATV System
- Security System

Provide rough-ins (j-box with 1” conduit to above finished ceiling) for all Technology Systems

- Structured Cabling
- Building Main Distribution Frame Room (MDF)
- Building Connectivity
- Television System
- Door Intercom Systems
- Access Control Systems
- Security Camera Systems
- Wireless LAN
- Network, Computer and Telephone Equipment
- A/V (Audio/Visual & Conference) Equipment Systems

Provide rough-ins as directed by owner’s vendor, unless described in the Technology scope sections.

Wiring Devices

All light switches will be 20-amp, specification grade quiet type. All receptacles will be 20-amp, specification grade.

All switches and receptacles connected to panelboards on the emergency system will be red. Wiring devices connected to normal power panels will be white.

Wiring Devices will be Leviton Decora style devices or equivalent. All cover plates will be stainless steel, labeled to identify the panel and circuit number serving the device.

Ground-fault circuit interrupter receptacles will be used within 6’ of any water source. Receptacles located on exterior walls and on roof areas will be ground-fault circuit interrupter type with weatherproof covers.

Floor boxes will be utilized in large conference rooms, briefing room, etc. The following types of floor boxes will be utilized:

- Power/data/A/V in slab on grade – Legrand RF4B-CI-NA or RFB6-OG

Conduit and Wiring

All wiring will be minimum #12 AWG copper, THHN/THWN, 600-volt type,. Type AC and MC Cable will only be allowed for inwall rough-in. Conductors sized #12 and #10 AWG will be solid; larger sizes will be stranded. Circuit homeruns will be limited to no more than 3 circuits.

Grounding conductors shall be provided with all feeder and branch circuit wiring in conduit.

All line voltage wiring, and fire alarm wiring shall be installed in conduit and rated for Level 1 survivability where necessary.

All conduits inside the building will be EMT. All conduits located outside the building above grade will be rigid steel.

Steel set screw fittings will be used wherever EMT conduit is used. Nonmetallic conduit is not permitted for use inside the building or penetrating through the slab. Conduits will not be installed in the elevated slab.

All junction boxes and conduits will be labeled with color-coded paint to correspond to their branch of the electrical system, including red for fire alarm conduits.

Panelboards

New panelboards shall be fully-rated with copper bussing and bolt-on type circuit breakers. Panels will be surface-mounted with door-in-door fronts and have engraved, laminated three-layer acrylic or melamine label noting designation and voltage of panel. Similar labels will be provided on or at all transformers, motor starters and disconnect switches.

END OF SECTION

TECHNOLOGY SYSTEMS

Additional Technology Codes and Standards:

- ICC 500
- ANSI/NECA/BICSI-568 - Installing Commercial Building Telecommunications Cabling
- BICSI Customer-Owned Outside Plant Design Manual, 4th edition
- BICSI Telecommunications Distribution Methods Manual, 12th edition
- City and State Codes
- EIA/TIA 568B
- TIA-568-C.0 – Generic Telecommunications Cabling for Customer Premises
- TIA-568-C.1 – Commercial Building Telecommunications Cabling Standard
- TIA-568-C.2 – Balanced Twisted-Pair Telecommunications Cabling and Components Standards
- TIA-568-C.3 – Optical Fiber Cabling Components Standard
- TIA-569-B - Commercial Building Standard for Telecommunications Pathways and Spaces
- Motorola R56 – Standards and Guidelines for Communications Sites
- Any Codes and Standards listed in the master list at the beginning of this document for Electrical, Life Safety, or other applicable Codes (NESC, NEC, LSC).

General Notes

This project shall include multiple radio and microwave-based communications systems of a critical nature, which will be Owner Furnished. Given that most of these systems will be primarily manufactured by Motorola, the Motorola R56 grounding standards shall be followed. The contractor should understand that all telecommunications and power cables and infrastructure that support it (building cable entrances, pathway ladder racks, equipment racks, etc.) will be affected by the Motorola R56 Standards and Guidelines for Communications Sites. The R56 Standard will focus on grounding requirements.

General Requirements

This narrative includes the following communications systems:

- Structured Cabling
- Building Main Distribution Frame Rooms
- Building Connectivity
- Television System
- Overhead Paging Equipment Systems
- Door Intercom Systems
- Access Control Systems
- Security Camera Systems
- Wireless LAN
- Network, Computer and Telephone Equipment
- A/V (Audio/Visual & Conference) Equipment Systems
- Area Specific Requirements
- Radio Equipment Systems
- Emergency Responder Radio Communication System
- Distributed Antenna System

Design for the Technology systems listed above will be for the new construction Headquarters space. The details of the systems will be refined during the Design Phase, in conjunction with Owner / staff input and City and County directives / standards. The Communications, Technology and Security systems will be specified, designed, and installed per the Division 27 and 28 Technical Standards. All new construction will be supported by these systems.

Structured Cabling – Rough-in and Primary Pathway

All low voltage cabling will be installed in a conduit and cable tray system to the Main Distribution Frame Room (MDF). A system of continuously connected cable trays shall be installed to support the cable throughout the main corridors to its final destination of the MDF. This system of cable trays will form the Primary Pathway, or Horizontal Backbone. The Primary Pathway will support the customer network, voice communications, and video signals cabling. The General Contractor shall provide and install the Primary Pathway.

The General Contractor shall provide all rough-ins, typical described as:

- 2-gang Backboxes (Minimum 4-11/16” x 4-11/16”)
- 4-in single gang mud ring
- Minimum 1-inch conduit, stubbed-out above nearest accessible ceiling with appropriate connector and bushing.

Additional requirements:

- Wall and floor sleeves for vertical and horizontal cable pathways
- STI "EZ-Path" or similar fire-rated pathways will be installed through rated and smoke barrier walls.
- Acoustic putty at acoustic walls
- Special backboxes required by systems equipment will be provided by the Owner's vendor for installation by the Contractor.
- Assume a data drop in staff spaces and at each workstation location.

Structured Cabling – Voice and Data Infrastructure

The structured cabling system (all low-voltage cabling / data cabling) shall be the customer approved Category 6 (CAT6) cabling solution. This shall include but not be limited to the actual cable, patch panels, equipment racks, wire management, ladder racks, RJ-45 jacks, and cover plates. Voice, data, and video cables will be terminated on racks to accommodate Voice over Internet Protocol (VoIP) technology. The structured cabling system equipment will be located in the new Main Distribution Frame Room (MDF).

New CAT6 unshielded twisted-pair (UTP) cabling will be installed throughout the new construction project. This cabling will be home-run from each outlet to the nearest MDF or IDF. Cable routing will utilize the Primary Pathway and/or cable trays and be bundled together where possible. The cabling will be installed in a universal method that allows the most flexibility for future moves/adds/changes by not differentiating between voice and data functions.

The Low Voltage vendor shall provide cable tray in open ceiling areas and J-Hooks above the finish ceiling, as needed, to bridge the gap between the Primary Pathway and each rough-in (conduit stubbed-up above accessible ceiling). The standard outlet shall consist of 2-each Cat6 data cables mounted in a 4-port faceplate with the remaining two ports blanked off. The General Contractor shall provide all rough-ins.

All cable is to have black jacket.

Building Main Distribution Frame Room

The Main Distribution Frame Room (MDF) will house the Information Systems (IS) network equipment, servers, radio equipment and provide connectivity to the Intermediate Distribution Frame Rooms (IDFs). (The building Demarcation Point (demarc) for all Service Providers will have a dedicated room.)

Communications equipment racks, ladder racks, cable management modules and other hard equipment installed in the MDF, shall be provided by the Owner and installed by the Contractor.

New head end equipment shall be installed in the MDF as necessary to accommodate all new devices. This will include but not be limited to network switches, gateways, routers, servers, security panels, access control panels, etc.

General Requirements (MDF):

- No ceiling of any kind will be required in MDFs.
- All four walls shall be covered with ¾" 4-ft x 8-ft A/C grade, fire rated plywood mounted vertically, 4" aff.
- Fire rated plywood shall have a painted finish (typical white). Do NOT cover the factory fire rating stamp.
- All 2-post and 4-post equipment racks shall be mounted to the floor.
- 18-inch ladder-racks / cable runway shall be installed overhead to facilitate cable management.
- Convenience electrical outlets will be located every 6' on each wall at 48" aff.
- Dedicated power for electronic network equipment will be delivered from a dual overhead busway system.
- A Dedicated 5-20R for each low voltage equipment panel located in the MDF for card access, camera system, overhead paging and CATV.
- All grounding shall be per Motorola R56 standards, reference Electrical for more detail.
- Anticipate no less than two (2) total communications racks, ganged side-by-side without walking space between.

Backup power requirements will be satisfied by Generator support.

Building Connectivity

Building Connectivity – Service Provider Entry Pathway

Redundant data circuits will be pulled into the building (primary & secondary circuits), from separate Service Providers via two (2) separate paths plus a third service used for a special-use IP address for ICAC investigative purposes. The three (3) Service Provider entry points could potentially be at separate locations on the property boundary, to be determined by Service Providers; assume a 200-foot distance for each. Each Service Provider entry point shall consist of a handhold box at the property boundary and two (2) each 4" conduits for primary and secondary (run underground to the building demarc location). Third ICAC service will have one 4" conduit to demarc location. Each conduit shall contain no less than three (3) each 1-1/4" innerducts with pull ropes. Total of five (5) each 4" conduits and three (3) each handhold boxes.

Building Connectivity – Dmarc to MDF

Building dmarc location shall be connected to the MDF via three (3) each underground 3" conduits. Each conduit shall contain no less than three (3) each 1" innerducts with pull ropes.

Building Connectivity – MDF to Annex

Underground conduit is required to provide connectivity to the remote Annex which will be located to the east of the main building. Conduits shall be three (3) each 3" conduits, run underground. Each conduit shall contain no less than three (3) each 1" innerducts with

pull ropes. Provide OSP 12 strand single mode fiber in one of the conduits. The other conduit shall be a spare.

Building Connectivity – MDF to External Camera Distribution Box

Underground conduit is required to provide connectivity to the remote fiber distribution box for the external camera system, located in the employee parking lot, plan north. Refer to architectural drawings for exact location. Conduits shall be two (2) each 3" conduits, run underground. Each conduit shall contain no less than three (3) each 1" innerducts with pull ropes. Provide OSP 12 strand single mode fiber in one of the conduits. The other conduit shall be a spare.

Building Connectivity – Roof Antenna

Customer requires an antenna to be mounted on a new tower for microwave connectivity to other sites around the city. Attach antenna array to tower wall framing, route to MDF via underground conduit. Refer to architectural drawings for exact location.

Building Connectivity – Generator Area

Customer requires ability to monitoring equipment and sensors located in the Generator Area, from Briefing Rom. A dedicated conduit shall connect the Generator Area to the MDF. Conduit shall be a 2" conduit, containing two (2) each 1" innerducts with pull ropes. Refer to architectural drawings for exact location.

Television System

The television system will consist of data outlets with HDMI connection, cabling infrastructure and commercial grade televisions. Televisions will be provided in areas as identified on architectural drawings. The system will be specified, designed and installed per the owner's direction.

Each TV location shall have plywood backing with specialized backbox that will have power and data. Backbox to be provided by Owner and installed by the Contractor. Minimum of 1.5-inch conduit stub-up to nearest accessible ceiling.

Overhead Paging System

The Overhead Paging functionality shall be processed via PA speakers and wall mounted volume control in areas depicted on architectural drawings. Audio content will be fed from emergency radio base station. Refer to architectural narrative and drawings for additional details.

Door Intercom Systems

This system shall allow staff to monitor access to certain areas after normal business hours (i.e. lobbies, employee parking) by viewing the person requesting access via a small camera housed in the intercom device. System shall give the staff member the capability to then grant access with a remote door release button. This system includes Master Consoles and intercom units (installed at remote locations), via PoE cabling, and power supplies. This system does not include electrified door hardware. Door hardware to be provided and installed by the General Contractor. System hardware shall be AiPhone or other as approved by Planner. Refer to architectural narrative and drawings for additional details.

Access Control System

The access control system consists of card readers, door hardware (to be coordinated with door hardware vendor) and controllers. The access control system head-end equipment (if any) will be located in the new IDF. Access Control and Security systems will match the current town enterprise standard which allows a single badge to be programmed for multiple buildings across the town. The preferred vendor shall be engaged to provide and install this new system. Refer to architectural narrative and drawings for additional details.

Security Camera System

The video surveillance system will be new and interface to the town's video system. All cameras shall be IP cameras and will require a category 6 cable homerun to each camera. Interior cameras shall have coverage on all entry/exit doors, interior card access doors and general lobby areas. The exterior of the building will have full video coverage around the entirety of the building and shall cover all entry/exit points, windows, sidewalks and parking areas. Cameras may be mounted on the exterior walls of the building or on parking lot light poles as required.

Connectivity for external cameras mounted on light poles shall be via a network of underground conduit, emanating from a centrally located extreme weather rated enclosure. A minimum 12-strand armored fiber will connect the building to the enclosure which shall house media converters for each camera. CAT6 cable will run from the enclosure via underground conduit to each pole-mounted camera. Refer to architectural narrative and drawings for additional details.

Wireless LAN

The Wireless LAN (Wi-Fi 7) system will include Wi-Fi 15 Access Points (APs) and cabling infrastructure. Cabling for the APs will be part of the network cabling infrastructure for the building. Cable will be installed with an additional 25 feet of slack cable at the end device; this will allow for slight location adjustment after a Wi-Fi survey has been conducted to determine the exact placement of the APs. All equipment to be furnished by Owner and

installed by the low voltage cabling vendor. Refer to architectural narrative and drawings for additional details.

External APs shall be installed to provide coverage over the secure parking area, to enable patrol car technology (ticket logs, body cams) to download data back at the station from the vehicle. Contractor shall provide rough-in at the appropriate mounting location. Refer to architectural narrative and drawings for exact locations. Owner shall provide end device, to be installed by vendor.

Network, Computer, and Telephone Equipment

The network, computer and telephone equipment include telephones, PCs, printers, fax machines, multi-purpose copiers, wireless access points, routers, switches, servers and time clocks. The location of desktop devices will be coordinated with the furniture and casework plans to ensure that there is enough room for the equipment. Equipment power requirements will be coordinated with the electrical engineer to ensure proper electrical outlets are provided in the correct locations. All equipment to be furnished by Owner. Refer to architectural narrative and drawings for additional details. Network and computer equipment will be specified, designed, and installed per the owner's direction. Assume mounting of wall mounted brackets, PC mounts, monitor mounts, etc. to be installed by the general contractor.

A/V System

Audio/Visual System (A/V) typically includes wall mounted TVs with video input from in-room computers or Wi-Fi devices, audio conferencing equipment, including mics and speakers, possibly with controls at a lectern. AV rough-in, ethernet by contactor, all cabling (except ethernet) and end point devices by owner's vendor.

Separate from the standard A/V equipment, there will be a Suspect Interview Recording System, installed by a specialty vendor, provided by Owner. This system will ride on the customer's standard network, accessible for their computers. Provide cabling and rough in as indicated in owner's vendor drawings and install cameras and microphones per vendor drawings. Ethernet to all endpoint device locations back to MDF will be provided by contractor. Endpoint devices and server console by owner's vendor. Refer to the architectural security diagrams.

Area Specific Requirements

Area Specific – Briefing Room & Community Room

The Briefing Room and Community Room will require full control of the in-room A/V system from a lectern with mic / speaker, and a wall display(s). AV functions will be controlled in adjacent AV closet. Refer to architectural narrative and drawings for additional details.

Area Specific – Conference Room

The Conference Room will require a simple, easy to use A/V system (possibly WiFi-based to minimize equipment in the room), and wall-mounted TVs. System shall include capability to control wall-mounted TV input source from conference table and perimeter computer workstation. Refer to architectural narrative and drawings for additional details.

Area Specific –Annex Building

Annex building will require fiber connection from the MDF in the main building via underground conduit. All communications equipment will be housed in an appropriately sized wall-mounted, lockable cabinet. Communications / Technology equipment expected to support this building will include (but not be limited to), Network Switch, Desktop computer equipment, WiFi APs, Security Cameras and Access Control for both entry doors. Refer to architectural narrative and drawings for additional details.

Area Specific – Parking Lot Entrance Gates

Parking Lot Gates will require connectivity from the MDF in the main building via underground conduit to support Security Cameras and Access Control devices. Refer to architectural narrative and drawings for additional details.

Area Specific – Digital Forensics

Digital Forensics, located inside Investigations Suite, shall have its own communications rack and conduit to the MDF. This rack shall service in-room equipment only due to its sensitive nature and potential air-gapped network capability. This system will have dedicated ethernet. Refer to architectural narrative and drawings for additional details.

Radio System

Radio Systems will be the current City standard to provide seamless communication with the existing sister agencies in the Town and County. The City's preferred vendor (currently maintaining the operational system) shall be engaged to provide and install this new system. Refer to architectural narrative and drawings for additional details.

A system of overhead speakers shall be installed in gathering areas to broadcast the emergency radio feed. A wall-mounted volume control for the speaker shall be installed in those spaces. Refer to architectural narrative and drawings for additional details.

Emergency Responder Radio Communication System

An Emergency Responder Radio Communication System (ERRCS) shall be installed to ensure reliable and redundant two-way communication for first responders on their existing public safety radio frequencies, within the building. The ERRCS shall be the same current City standard equipment to provide seamless communication support. The preferred vendor shall be engaged to provide and install this new system. Contractor to provide cable pathways and rough-ins as required. Refer to architectural narrative and drawings for additional details.

Distributed Antenna System

A Distributed Antenna System (DAS) shall be installed to support consumer cellular devices based on radio test performed during construction. The DAS shall be the same current City standard equipment to provide seamless communication. The preferred vendor in direct contract with owner shall be engaged to provide and install this new system. Cable and pathway to be provided and installed by contractor. Refer to architectural narrative and drawings for additional details.

END OF SECTION

END OF NARRATIVE