

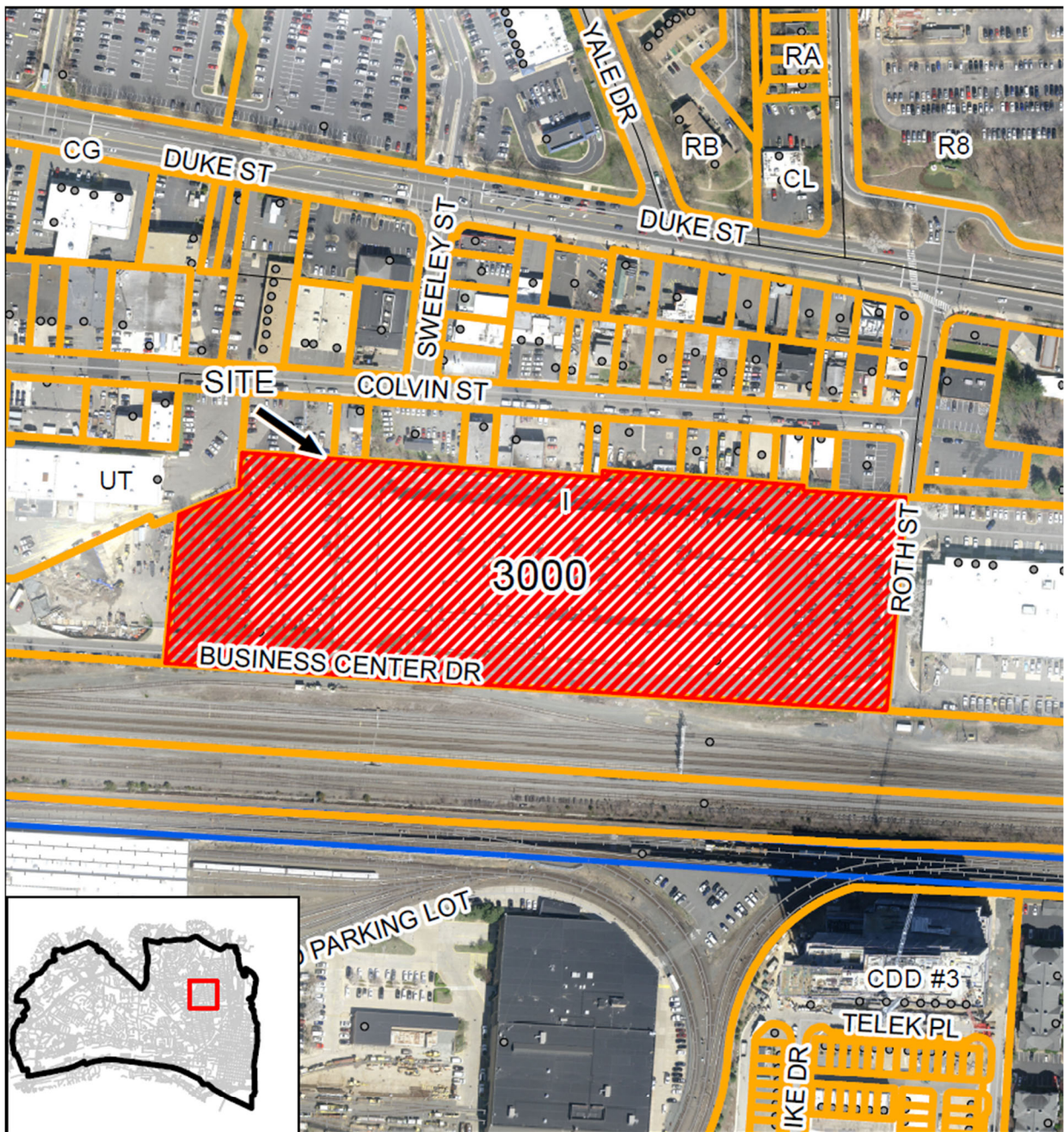
***Docket Item #5***  
***Development Special Use Permit #2025-10008***  
***DASH Expansion Project***

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| Application                                                                                 | General Data                     |                                            |
|---------------------------------------------------------------------------------------------|----------------------------------|--------------------------------------------|
| <b>Project Name:</b><br>DASH Expansion for<br>Electric Charging and<br>Maintenance Facility | PC Hearing:                      | September 4, 2025                          |
|                                                                                             | CC Hearing:                      | September 13, 2025                         |
|                                                                                             | If approved,<br>DSUP Expiration: | September 13, 2028                         |
|                                                                                             | Plan Acreage:                    | 9.21 Acres                                 |
| <b>Location:</b><br>3000 Business Center Drive                                              | Zone:                            | I, Industrial                              |
|                                                                                             | Proposed Use:                    | Public Building for<br>DASH Bus Operations |
|                                                                                             | Gross Floor Area:                |                                            |
|                                                                                             | Small Area Plan:                 | Taylor Run / Duke Street                   |
| <b>Applicant:</b><br>Department of General<br>Services, City of Alexandria                  | Historic District:               | N/A                                        |
|                                                                                             | Green Building:                  | N/A                                        |

| Purpose of Application                                                                                                    |
|---------------------------------------------------------------------------------------------------------------------------|
| To amend development special use permit #2011-0008 to construct an electric charging canopy structure for electric buses; |
| Special Use Permits and Modifications Requested:                                                                          |
| Special Use Permit for a <i>Public Building</i>                                                                           |

| Staff Recommendation: APPROVAL WITH CONDITIONS                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Staff Reviewers:</b><br>Robert Kerns AICP, Division Chief, Planning & Zoning, <a href="mailto:robert.kerns@alexandriava.gov">robert.kerns@alexandriava.gov</a><br>Dirk Geratz, AICP, Principal Planner, Planning & Zoning, <a href="mailto:dirk.geratz@alexandriava.gov">dirk.geratz@alexandriava.gov</a><br>Abigail Harwell, Urban Planner, Planning & Zoning, <a href="mailto:abigail.harwell@alexandriava.gov">abigail.harwell@alexandriava.gov</a> |



**DSUP#2025-10008**  
**3000 Business Center Drive**



0 105 210 420 Feet



## **I. SUMMARY**

### ***A. Recommendation***

Staff recommends **approval** of the proposed amendments to the Development Special Use Permit (DSUP #2025-10008) for the proposed addition of an electric charging and maintenance structure at the current DASH facility at 3000 Business Center Drive. This project, including a previous amendment, conforms to the City's adopted plans, codes, and policies.

### ***B. General Project Description***

The purpose of this proposal is to construct a new canopy structure to expand additional bus parking, maintenance and storage for 24 additional buses. A DSUP is triggered by the *public building use* and a building expansion in excess of 3000 square feet.

## **II. BACKGROUND**

### ***A. Procedural Background***

The DASH Bus Operations facility DSUP #2006-0025 was originally approved by City Council in May of 2008, to create a 160,000 square foot building to house 96 buses for protective storage and maintenance bays for repair and preventative maintenance work. As originally approved, the property was designed and graded to allow for a future expansion on the west side of the building to accommodate additional parking for 34 buses. Under the current proposal, this site will be used as the temporary location for the impound lot until this expansion program is approved and funded.

In 2011 a major amendment, DSUP #2011-0008, was approved to allow for the temporary relocation of part of the City's impound lot to this location. The impound lot was located at the vacant western end of the of the DASH property. It was approved knowing that this would be an interim use until DASH would need it for future expansion of their operations.

### ***B. Site Context***

The existing DASH bus facility is located at 3000 Business Center Drive. The facility is located west of the City-owned Witter Wheeler athletic campus and lies within the Taylor Run / Duke Street Small Area Plan. The site is currently functioning as a bus operations facility for Alexandria Transit Company, known as DASH and the City of Alexandria impound lot. The impound lot located at the western end of the property will be the site of the proposed expansion.

### ***C. Detailed Project Description***

This project proposes to construct a new canopy-style structure to expand bus parking, maintenance, storage and charging for 24 electric buses. The expansion is to be located to the west of the existing DASH facility, on the current impound lot. The improvements include: a partially open canopy structure with a solid roof but open on the long sides of the structure, electric charging capabilities to charge electric buses, a surface parking area and bus storage, vehicular access aisles and a secured gated entry. Additionally, a bioretention pond west of the new canopy is proposed to receive and treat runoff from these improvements before entering the existing detention pond. The structure is designed for future expansion and improvements to accommodate additional electric buses in the future.

### ***D. Project Funding***

This project is funded by FY2018 Smartscale Round 2 funding, which provides \$6.7 million for the construction of the DASH facility expansion to accommodate for fleet growth and service expansion. This grant also provides funding for six (6) expansion buses for service expansions. An additional \$2.5 million contributed by FY2018-2023 NVT A 70% funds, awarded for DASH Transit Service Enhancements and Expansion. The NVT A 70% funds augment the Smartscale funding to provide provisions for electric bus charging to be included with this project.

## **III. ZONING**

|                                                                                       |                    |      |                                                       |
|---------------------------------------------------------------------------------------|--------------------|------|-------------------------------------------------------|
| <u>Property Address:</u> 3000 Business Center Drive                                   |                    |      |                                                       |
| <u>Total Site Area:</u> 9.21 acres                                                    |                    |      |                                                       |
| <u>Zone:</u> I, Industrial                                                            |                    |      |                                                       |
| <u>Current Use:</u> Public Building – DASH Bus Operations                             |                    |      |                                                       |
| <u>Proposed Use:</u> Public Building – Electric Charging Structure for up to 24 Buses |                    |      |                                                       |
|                                                                                       | Permitted/Required | SUP  | Proposed                                              |
| FAR                                                                                   | .85                | 1.25 | .436                                                  |
| Setbacks                                                                              | None               | N/A  | Front: 113.7 ft<br>West Side: 172 ft<br>Rear: 65.4 ft |
| Height                                                                                | 50 feet            | N/A  | 35.25 feet                                            |
| Parking                                                                               | 235                | N/A  | 357                                                   |
| Loading Space                                                                         | 2                  | N/A  | N/A                                                   |
| Tree Canopy                                                                           | 25%                | N/A  | 48.5%                                                 |



## **IV. STAFF ANALYSIS**

The proposed facility provides an opportunity to fulfill many of the goals and objectives identified in the City's planning policies and documents – primarily the provision of efficient public transportation to reduce auto-dependency and improve quality of life. The City's Strategic Plan identifies the construction of a new DASH operations and maintenance facility as a project essential to achieving the goal of an integrated, multi-modal transportation system that efficiently and effectively transports City residents, visitors, and employees.

The new facility also enables DASH to improve quality of service by providing sufficient storage for additional buses, expanded maintenance bays to accommodate a larger bus fleet, adequate parts and equipment areas, and the ability to transition the fleet to environmentally friendly buses. DASH anticipates that the new facility will facilitate increased service levels on existing routes and the creation of new routes to connect new and future development, revitalized areas, and neighborhoods currently lacking sufficient transit.

### ***A. Building Design/Architecture***

The project consists of a 15,482 square foot open canopy (not fully enclosed) steel structure for the storage, maintenance, and charging of 24 electric buses with battery electric bus (BEB) charging infrastructure. The bus storage bays are topped by a conventional roof and an equipment platform that runs the length of the facility above the bays. The equipment platform is also roofed accommodating charging equipment. The long sides of the storage bays are open with no exterior doors. Insulated metal panels clad the solid wall areas. The panel design responds to the DASH campus' existing context incorporating a horizontal band of 'DASH yellow' on a field of off-white panels in coordination with the adjacent bus maintenance facility.

### ***B. Conformance to the Small Area Plan***

The subject property is located within the most southern portion of the Taylor Run/Duke Street Small Area Plan. This plan identifies the subject property, including much of the land area south of Colvin Street, as an area planned for light industrial and commercial service uses. The area occupied by the DASH facility had at one time been part of a railroad yard with industrial type uses surrounding this area. This location is an appropriate one for the expansion of the existing DASH operations which have been in operation since 2008.

### ***C. Project Sustainability***

The City of Alexandria's Environmental Action Plan (EAP 2040) includes targets for increased transit ridership, reduced vehicle miles traveled (VMTs), and to transition DASH's fleet to 100% zero-emission vehicles. Reducing single-occupant vehicle driving (SOV), and promoting sustainable modes of transportation like walking, biking and public transit can help people reduce greenhouse gas emissions, improve air quality, and promote land uses that further reduce carbon emissions.

As an open-air infrastructure facility which will not provide heat or air-conditioning in standard operation, the facility is exempted from the City's 2019 Green Building Policy and the certification requirements included in the Policy are not relevant. It should be noted that the structure will be built with concrete and stone aggregate products will be locally sourced materials.

Furthermore, the facility's use will support the transition to an all-electric DASH bus fleet by 2040. This will contribute to the City's overall goals of greenhouse gas reductions for decades into the future. All proposed concrete and stone aggregate products will be locally sourced materials.

Additionally, the site will become greener through the planting of new, site appropriate trees, and a landscaped bioretention area. A large number of trees are being removed, a majority of which are invasive species and small in diameter. Upon completion of the project, the tree canopy will be increased from the current 39% to 48.5%.

#### ***D. Stormwater Management***

Stormwater will be managed by the existing dry detention pond. A new bioretention area will be added adjacent to the pond as part of this project for enhanced stormwater management. Both facilities will be maintained by the City.

The stormwater management plan demonstrates that the site has been developed to increase the post-development peak runoff rate from the pre-development peak runoff rate for a one-year and a ten-year storm considered individually. Therefore, stormwater detention is provided per the requirements of article 13-109(f)(1)(c) and 13-109(f)(2)(a)(i) of Alexandria zoning ordinance not to release stormwater from the site at a higher rate than pre-development condition. An adequate outfall analysis was completed to confirm this.

This project is an area that experiences flooding, as has been documented in the report titled 'Dash Flooding Analysis of Alternatives Alexandria, Va', prepared by Michael Baker International, dated 12/04/2019. This issue will be addressed as part of the improvements being made as part of the fourth track rail project abutting the property to the south.

## **V. COMMUNITY**

The standard public notice procedures took place with this property including the posting of signs on the property, written notices to adjacent property owners as well as in a local newspaper noticing the public hearings. Additionally, DASH has a dedicated project webpage and has used existing email databases and community events to inform the community about the project.

No negative comments have been received by the City on this project at the time this report was completed. It should be noted that the isolated site and abutting uses being the rail corridor to the south, other City facilities to the east and west and two commercial uses to the north greatly limit potential impacts from the expanded facility.

## VI. CONCLUSION

Staff recommends approval of the proposed amendment to the DASH DSUP and to permit the *public building* use at this location subject to compliance with all applicable codes and the following recommended conditions.

## VII. GRAPHICS



Site Plan of new building and bus circulation space



View from Southwest corner looking northeast. Existing facility at far right.

## **VIII. STAFF RECOMMENDATIONS**

Staff recommends approval of the proposed amendment to the DASH facility subject to compliance with all applicable codes and ordinances and the following conditions:

*Note:*

New conditions 55 through 69 are specific to this DSUP #2025-10008;

Conditions 1 through 54 are carried forward from DSUP2006-0025 or as amended by DSUP2011-00008. These conditions are still valid as applicable.

### **A. BUILDING DESIGN:**

1. The final architectural elevations shall be consistent with the level of quality and detail provided in the preliminary architectural elevations dated April 23, 2008. In addition, the applicant shall provide additional refinements to the satisfaction of the Directors of P&Z and T&ES that shall at a minimum include: (DSUP #2006-0025):
  - a. All facades of the building shall be constructed entirely of masonry (precast) as generally depicted in the preliminary architectural elevations.
  - b. The building elevations shall be light sandblast and include bands of blue and yellow paint or stain to add visual interest and identification to the building.
  - c. The band of blue shall be provided on the two-story segment of the Business Center Drive and Roth Street building elevations, except in the recessed building segments. The band of yellow shall be located immediately beneath the band of blue on the two-story segment of the Business Center Drive and Roth Street elevations and continue on each building elevation.
  - d. Louvers located within the yellow band shall be factory finished or painted yellow to match the band of yellow stain or paint. All other louvers shall be factory finished or painted match corresponding wall material or color.
  - e. The stairs located on the north of the building shall be factory finished or painted to correspond to the color of the precast.
  - f. Overhead doors shall be factory finished to match the bands of blue stain or paint.
  - g. Provide fourteen to sixteen detailed, fluted pilasters on the southern and eastern building elevations to identify the main entrance and administrative area as a primary façade.
  - h. Windows shall be gridded with an operable awning, and mullions shall be factory finished or painted yellow to correspond to the yellow building band.
  - i. The entrance canopy shall be enhanced to provide a decorative, cable-suspended canopy. All building identification shall be located above the canopy to ensure consistency with the art deco style.
  - j. The DASH sign shall be integrated with the building and designed in general conformance with Attachment #1.



- k. The rooftop mechanical equipment visible from Business Center Drive and Roth Street shall be painted to match the precast concrete panels.
  - l. The building mounted light fixtures shall be an integrated part of the façade and shall be provided with the final site plan submission.
  - m. The freestanding light poles on the ramp shall be eliminated. Wall mounted lighting on the interior of the ramp shall be provided.
  - n. The City of Alexandria encourages the use of green/sustainable building technology. The applicant shall achieve points toward LEED Silver Certification under the U.S. Green Building Council's System. The sustainable design elements and innovative technologies implemented to achieve these points shall be consistent with the preliminary project checklist dated February 29, 2008.
  - o. A color on-site mock-up shall be provided prior to the final selection of the precast concrete and other building materials.
  - p. Color architectural elevations (front, side and rear) shall be submitted with the final site plan and with the mylar submission. (P&Z)(T&ES)
2. The applicant of any building or structure constructed in excess of 10,000 square feet; or any building or structure which constructs an addition in excess of 10,000 square feet shall contact the City of Alexandria Radio Communications Manager prior to submission of final site plan. The proposed project shall be reviewed for compliance with radio requirements of the City of Alexandria to the satisfaction of the City of Alexandria Radio Communications Manager prior to site plan approval. Such buildings and structures shall meet the following conditions (DSUP #2006-0025):
- a. The building or structure shall be designed to support a frequency range between 806 to 824 MHz and 850 to 869 MHz.
  - b. The building or structure design shall support minimal signal transmission strength of -95 dBm within 90 percent of each floor area.
  - c. The building or structure design shall support a minimal signal reception strength of -95 dBm received from the radio system when transmitted from within 90 percent of each floor area.
  - d. The building or structure shall be tested annually for compliance with City radio communication requirements to the satisfaction of the Radio Communications Manager. A report shall be filed annually with the Radio Communications Manager which reports the test findings.

If the building or structure fails to meet the above criteria, the applicant shall install to the satisfaction of the Radio Communications Manager such acceptable amplification systems incorporated into the building design which can aid in meeting the above requirements. Examples of such equipment are either a radiating cable system, or an FCC approved type bi-directional amplifier. Final testing and acceptance of amplification systems shall be reviewed and approved by the Radio Communications Manager. Acknowledged by applicant, will be evaluated with DB team. (Code)

**B. PEDESTRIAN AND STREETScape:**

3. The applicant shall provide pedestrian and streetscape improvements that at a minimum provide the level of improvements depicted on the preliminary site plan dated March 20, 2008, and shall also at a minimum provide the following to the satisfaction of the Directors of P&Z, RP&CA, and T&ES:
  - a. The sidewalk on the north side of Business Center Drive, with the exception of the entrance area, shall be a 6-foot-wide unobstructed sidewalk located adjacent to the curb with a minimum 6-foot landscape strip located between the sidewalk and the bioretention planter boxes.
  - b. The sidewalk on the west side of Roth Street shall be a minimum of 7 feet, with a minimum unobstructed width of 5 feet. A landscape strip shall be provided adjacent to the curb, and a continuous screen hedge shall be installed adjacent to the sidewalk within the landscape strip. Street trees shall be centered in the landscape strip between the screen hedge and the curb.
  - c. The developer shall install and maintain ADA accessible pedestrian crossings serving the site.
  - d. Where crosswalks are to be marked, provide thermoplastic (open ladder) style crosswalks at all midblock locations; all other crosswalks at controlled intersections shall be standard two-line crosswalks.
  - e. All pedestrian and streetscape improvements shall be completed prior to the physical occupation of the impound lot. (P&Z) (T&ES)(RP&CA) (DSUP#2011-00008)
4. Americans with Disability Act (ADA) ramps shall comply with the requirements of Memorandum to Industry No. 03-07 on Accessible Curb Ramps dated August 2, 2007, with truncated domes on the end of the ramp with contrasting color from the rest of the ramp. A copy of this Memorandum is available on the City of Alexandria website (DSUP #2006-0025). (T&ES)
5. Provide all pedestrian and traffic signage in accordance with the Manual of Uniform Traffic Control Devices (MUTCD), latest edition to the satisfaction of the Director of T&ES (DSUP #2006-0025). (T&ES)

**C. LANDSCAPING:**

6. The applicant shall provide landscape improvements that at a minimum provide the level of improvements depicted on the preliminary site plan dated March 20, 2008, and shall also at a minimum provide the following to the satisfaction of the Directors of P&Z, RP&CA, T&ES, and Code Enforcement (DSUP #2006-0025):
  - a. Develop, provide, install and maintain an integrated Landscape Plan that is coordinated with other associated site.
  - b. The plan shall comply with the City of Alexandria Landscape Guidelines.

- i. Ensure that FDC connections and secure access/exit areas for the building are not compromised by proposed plantings.
  - ii. Provide required crown area coverage.
  - iii. Provide hose bibs at a maximum spacing of 90' apart on three faces of the building, as generally depicted on the preliminary plan
  - iv. Hose bibs and ground set water connections must be fully accessible and not blocked by plantings, site utilities or other obstructions.
- c. The transformer located adjacent to Business Center Drive shall be screened.
- d. Flow-through planter boxes shall be precast to match the building materials.
- e. The rooftop open space shall be designed to function as high-quality usable open space for the employees. At a minimum, the rooftop deck shall include planters, tables and chairs, benches, and trash receptacles.
- f. The landscaping for the proposed development shall not impede the visibility of any FDC or Fire Hydrant and shall comply with Section 912 of the Statewide Fire Prevention Code. Landscaping that impedes FDC visibility and shall be removed by the Final Site Plan #1 submission. (RP&CA)(P&Z)(T&ES)(Code)

**D. SITE PLAN:**

- 7. Security fences and gates shall be black, vinyl-coated chain link and shall not exceed 8 feet in height (DSUP #2006-0025). (P&Z)
- 8. Shift the security fence located adjacent to the stormwater management basin north to accommodate the five street trees between the sidewalk and the fence (DSUP #2006-0025). (P&Z)
- 9. The final subdivision and consolidation plats shall be submitted as part of the submission for first final site plan and shall be approved and recorded prior to the release of the final site plan (DSUP #2006-0025). (P&Z)
- 10. Provide a lighting plan with the final site plan to verify that lighting meets City standards. The plan shall be to the satisfaction of the Directors of T&ES and P&Z in consultation with the Chief of Police and shall include the following (DSUP #2006-0025):
  - a. Clearly show location of all existing and proposed streetlights and site lights, shading back less relevant information;
  - b. A lighting schedule that identifies each type and number of fixtures, mounting height, and strength of fixture in Lumens or Watts;
  - c. Manufacturer's specifications and details for all proposed fixtures including site, landscape, pedestrian, sign(s), and security lighting.
  - d. A photometric plan with lighting calculations that include all existing and proposed light fixtures, including any existing streetlights located on the opposite side(s) of all adjacent streets. Photometric calculations must extend from proposed building face(s) to property line and from property line to the opposite side(s) of all the

- adjacent streets and/or 20 feet beyond the property line on all adjacent properties, and right-of-way. Show existing and proposed streetlights and site lights.
- e. Photometric site lighting plan shall be coordinated with architectural/building mounted lights, site lighting, street trees and streetlights and minimize light spill into adjacent residential areas.
  - f. Provide location of conduit routing between site lighting fixtures so as to avoid conflicts with street trees.
  - g. Detail information indicating proposed light pole and footing in relationship to adjacent grade or pavement.
  - h. The lighting for the areas not covered by the City of Alexandria' standards shall be designed to the satisfaction of Directors of T&ES and P&Z.
  - i. Provide numeric summary for various areas (i.e., roadway, walkway/ sidewalk, alley, parking lot, etc.) in the proposed development.
  - j. Full cut-off lighting shall be used at the development site to prevent light spill onto adjacent properties. (T&ES)(P&Z) (Police)

**E. STORMWATER:**

- 11. Per the requirements of the City of Alexandria Zoning Ordinance Article XI, the applicant shall complete a drainage study and adequate outfall analysis for the total drainage area to the receiving sewer that serves the site. Since the existing storm system is known to be inadequate then the applicant shall design and construct improvements on-site or off-site to discharge to an adequate outfall; or improve the existing drainage system on the proposed development site without adversely impacting the downstream conditions. The condition shall be fulfilled even if the post development storm water flow from the site is reduced from the pre-development flow. The Plan shall demonstrate compliance with this condition to the satisfaction of the Director of Transportation & Environmental Services. (T&ES) (DSUP#2011-00008)
- 12. Per the requirements of the City of Alexandria Zoning Ordinance (AZO) Article XIII, the applicant shall comply with the peak flow requirements and prepare a Stormwater Management Plan so that from the site, the post-development peak runoff rate from a two-year storm and a ten-year storm, considered individually, shall not exceed their respective predevelopment rates. If combined uncontrolled and controlled stormwater outfall is proposed, the peak flow requirements of the Zoning Ordinance shall be met (DSUP #2006-0025). (T&ES)
- 13. Flow from downspouts, foundation drains, and sump pumps shall be discharged to the storm sewer outfall as per the requirements of Memorandum to the industry on Downspouts, Foundation Drains, and Sump Pumps, Dated June 18, 2004, that is available on the City of Alexandria's web site. The downspouts and sump pump discharges shall be piped to the storm sewer outfall, where applicable after treating for water quality as per the requirements of Article XIII of Alexandria Zoning Ordinance (AZO) (DSUP #2006-0025). (T&ES)

14. All stormwater designs that require analysis of pressure hydraulic systems, including but not limited to the design of flow control structures and storm water flow conveyance systems shall be signed and sealed by a professional engineer, registered in the Commonwealth of Virginia. The design of storm sewer shall include the adequate outfall, inlet, and hydraulic grade line (HGL) analyses that shall be completed to the satisfaction of the Director of T&ES. Provide appropriate reference and/or source used to complete these analyses. If applicable, the Director of T&ES may require resubmission of all plans that do not meet this standard (DSUP #2006-0025). (T&ES)
15. The storm water collection system is located within the Cameron Run watershed. All on-site storm water curb inlets and public curb inlets within 50 feet of the property line shall be duly marked using standard City markers, or to the satisfaction of the Director of T&ES (DSUP #2006-0025). (T&ES)

**F. WASTEWATER / SANITARY SEWERS:**

16. In compliance with the City of Alexandria Zoning Ordinance Article XI, the applicant shall complete a sanitary sewer adequate outfall analysis as per the requirements of Memorandum to Industry No. 02-07 New Sanitary Sewer Connection and Adequate Outfall Analysis dated June 1, 2007 (DSUP #2006-0025). (T&ES)

**G. SOLID WASTE:**

17. The City of Alexandria shall provide the solid waste collection services, and all the refuse/recycling facilities shall be designed to the satisfaction of Director T&ES (DSUP #2006-0025). (T&ES)
18. The standard containers that are compatible with the City collection system shall be provided to the satisfaction of the Director of Transportation and Environmental Services (DSUP #2006-0025). (T&ES)
19. The applicant shall provide storage space for solid waste and recyclable materials containers as outlined in the City's "Solid Waste and Recyclable Materials Storage Space Guidelines", or to the satisfaction of the Director of Transportation & Environmental Services. The City's storage space guidelines and required Recycling Implementation Plan forms are available at: [www.alexandriava.gov](http://www.alexandriava.gov) or contact the City's Solid Waste Division at 703-519-3486 ext.132 (DSUP #2006-0025). (T&ES)

**H. STREETS/TRAFFIC:**

20. All improvements to the City's infrastructure, including but not limited to, curb, gutter, sidewalk, and driveway aprons, and patch work required for utility installation, etc., or damaged during construction shall be designed and constructed as per the City of Alexandria standards and specifications (DSUP #2006-0025). (T&ES)



21. Prior to the release of the final site plan, provide a Traffic Control Plan for construction detailing proposed controls to traffic movement, lane closures, construction entrances, haul routes, and storage and staging (DSUP #2006-0025). (T&ES)
22. All Traffic Control Device design plans, Work Zone Traffic Control plans, and Traffic Studies shall be signed and sealed by a professional engineer, registered in the Commonwealth of Virginia (DSUP #2006-0025). (T&ES)
23. Show turning movements of standard vehicles, buses, tow trucks, and trash trucks on the parking structure and/or on-site. Turning movements shall meet AASHTO vehicular guidelines and shall be to the satisfaction of the Director of T&ES. (T&ES) (DSUP#2011-00008)
24. The slope on parking ramp to garage entrance shall not exceed 10 percent. In case the slope varies between 10% and 12% then the applicant shall provide trench drain connected to a storm sewer to eliminate or diminish the possibility of ice formation (DSUP #2006-0025). (T&ES)

**I. UTILITIES:**

25. All private utilities shall be located outside of the public right-of-way and public utility easements (DSUP #2006-0025). (T&ES)
26. Show all existing and proposed public and private utilities and easements and provide a descriptive narration of various utilities (DSUP #2006-0025). (T&ES)

**J. SOILS:**

27. The applicant shall provide a geotechnical report, including recommendations from a geotechnical professional for proposed cut slopes and embankments with the submission of the first final site plan (DSUP #2006-0025). (T&ES)

**K. BMP FACILITIES:**

28. The City of Alexandria's storm water management regulations regarding water quality are two-fold: first, phosphorus removal requirement and second, water quality volume default. Compliance with the phosphorus requirement does not relieve the applicant from the water quality default requirement. The water quality volume determined by the site's proposed impervious area shall be treated in a Best Management Practice (BMP) facility (DSUP #2006-0025). (T&ES)
29. Provide BMP narrative and complete pre and post development drainage maps that include areas outside that contribute surface runoff from beyond project boundaries to include adequate topographic information, locations of existing and proposed storm drainage systems affected by the development, all proposed BMP's and a completed Worksheet A or B and Worksheet C, as applicable (DSUP #2006-0025). (T&ES)

30. The storm water Best Management Practices (BMPs) required for this project shall be constructed and installed under the direct supervision of the design professional or his designated representative. Prior to release of the performance bond, the design professional shall submit a written certification to the Director of T&ES that the BMPs are (DSUP #2006-0025):
  - a. Constructed and installed as designed and in accordance with the approved Final Site Plan.
  - b. Clean and free of debris, soil, and litter by either having been installed or brought into service after the site was stabilized. (T&ES)
31. Surface-installed storm water Best Management Practice (BMP) measures, i.e. Bio-Retention Filters, Vegetated Swales, etc. that are employed for this site, require installation of descriptive signage to the satisfaction of the Director of T&ES (DSUP #2006-0025). (T&ES)
32. The DASH Bus Maintenance Facility, 3000 Business Center Drive, shall be added to the Memorandum of Understanding concerning maintenance responsibilities for the City owned stormwater management best management practices, including stormwater detention pond. Amending this document shall be accomplished prior to mylar approval. (T&ES)(DSUP#2011-00008)
33. Prior to physical occupation of the impound lot, a copy of the Operation and Maintenance Manual shall be submitted to the Division of Environmental Quality on digital media. (T&ES) (DSUP#2011-00008)
34. Prior to physical occupation of the impound, the Applicant is required to submit a certification by a qualified professional to the satisfaction of the Director of T&ES that any existing storm water management facilities adjacent to the project and associated conveyance systems were not adversely affected by construction operations and that they are functioning as designed and are unaffected by construction activities. If maintenance of the facility or systems were required in order to make this certification, provide a description of the maintenance measures performed. (T&ES) (DSUP#2011-00008)

**L. CONTAMINATED LAND:**

35. Due to historic uses at the site and potential for contamination, the following condition shall be included:
  - a. The Applicant shall design and install a vapor barrier and ventilation system for buildings and parking areas in order to prevent the migration or accumulation of methane or other gases, or conduct a study and provide a report signed by a professional engineer showing that such measures are not required to the satisfaction of Directors of T&ES and Code Administration. (T&ES) (DSUP#2011-00008)

36. The final site plan shall not be released, and no construction activity shall take place until the following has been submitted and approved by the Director of T&ES (DSUP #2006-0025):
- a. Submit a Site Characterization Report/Extent of Contamination Study detailing the location, applicable contaminants, and the estimated quantity of any contaminated soils and/or groundwater at or in the immediate vicinity of the site.
  - b. Submit a Risk Assessment indicating any risks associated with the contamination.
  - c. Submit a Health and Safety Plan indicating measures to be taken during remediation and/or construction activities to minimize the potential risks to workers, the neighborhood, and the environment.
  - d. Applicant shall submit 5 copies of the above. The remediation plan must be included in the Final Site Plan. (T&ES)

**M. NOISE:**

37. All exterior building mounted loudspeakers are prohibited (DSUP #2006-0025). (T&ES)

**N. AIR POLLUTION:**

38. The Applicant shall control odors and any other air pollution sources resulting from operations at the site and prevent them from leaving the property or becoming a nuisance to neighboring properties, as determined by the Director of Transportation and Environmental Services (DSUP #2006-0025). (T&ES)
39. DASH buses and contractors shall not cause or permit diesel fueled vehicles to idle for more than 10 minutes when parked (DSUP #2006-0025). (T&ES)

**O. AUTOMOTIVE:**

40. Car wash facilities must be equipped with a water recycling system. The building official shall approve such a system. Any car washing activity must drain to the sanitary sewer system with prior approval from ASA, or be covered by a VPDES permit for discharge into the storm sewer (DSUP #2006-0025). (T&ES)
41. Provide a plan that shows the method of connection for the discharge of vehicle wash to an approved sanitary sewer system and proper disposal of rainwater to the storm sewer system. In case the applicant chooses to install commercial car washing equipment, such equipment shall be equipped with a water recycling system approved by the building official (DSUP #2006-0025). (T&ES)
42. All waste products including but not limited to organic compounds (solvents), motor oil, compressor lubricant and antifreeze shall be disposed of in accordance with all local, state and federal ordinances or regulations and not be discharged to the sanitary or storm sewers or be discharged onto the ground (DSUP #2006-0025). (T&ES)

43. The applicant shall comply with the City of Alexandria Best Management practices manual for automotive related industries. A copy can be obtained by contacting the Division of Environmental Quality at 703-838-4334 (DSUP #2006-0025). (T&ES)

**P. CONSTRUCTION:**

44. A “Certified Land Disturber” (CLD) shall be named in a letter to the Division Chief of C&I prior to any land disturbing activities. If the CLD changes during the project, that change must be noted in a letter to the Division Chief. A note to this effect shall be placed on the Phase I Erosion and Sediment Control sheets on the site plan (DSUP #2006-0025). (T&ES)
45. During the construction phase of this development, the site developer, their contractor, certified land disturber, or owner’s other agent shall implement a waste and refuse control program. This program shall control wastes such as discarded building materials, concrete truck washout, chemicals, litter or trash, trash generated by construction workers or mobile food vendor businesses serving them, and all sanitary waste at the construction site and prevent offsite migration that may cause adverse impacts to neighboring properties or to the environment to the satisfaction of Directors of Transportation and Environmental Services and Code Enforcement. All wastes shall be properly disposed offsite in accordance with all applicable federal, state and local laws (DSUP #2006-0025). (T&ES)
46. The applicant shall prepare and submit a plan that delineates a detailed construction management plan for the entire project for review and approval by the Directors of P&Z, T&ES, and Code Enforcement prior to the release the final site plan. Before commencing any clearing or grading of the site, the applicant shall hold a meeting with notice to all adjoining property owners to explain the plan for temporary pedestrian and vehicular circulation, and hours and overall schedule for construction. Copies of plans showing the hauling route, construction worker parking, and temporary pedestrian and vehicular circulation and temporary construction trailer location shall be posted in the construction trailer and given to each subcontractor before they commence work (DSUP #2006-0025). (P&Z) (T&ES)
47. The applicant shall identify a person who will serve as liaison to the community throughout the duration of construction. The name and telephone number, including an emergency contact number, of this individual shall be provided in writing to residents, property managers and business owners whose property abuts the site and shall be placed on the project sign, to the satisfaction of the Directors of P&Z and T&ES (DSUP #2006-0025). (T&ES)
48. Submit an approvable construction phasing plan to the satisfaction of the Director of T&ES, which will allow review, approval and partial release of final the site plan. In addition, building and construction permits required for site preconstruction shall be

permitted prior to release of the final site plan to the satisfaction of the Direction of T&ES (DSUP #2006-0025). (T&ES)

49. The applicant shall submit a wall check to the Departments of P&Z and T&ES prior to the commencement of framing for the building(s). The building footprint depicted on the wall check shall comply with the approved final site plan. The wall check shall also provide the top-of-slab and first floor elevation as part of the wall check. The wall check shall be prepared and sealed by a registered engineer or surveyor, and shall be approved by the City prior to commencement of framing (DSUP #2006-0025). (P&Z)(T&ES)
50. As part of the request for a certificate of occupancy permit, a building and site location survey shall be submitted to the Departments of P&Z and T&ES for all site improvements. A certification of height for the building shall also be submitted as part of the certificate of occupancy for each building(s). The certification shall be prepared and sealed by a registered architect and shall state that the height of the building complies with the height permitted pursuant to the approved development special use permit and that the height was calculated based on all applicable provisions of the Zoning Ordinance (DSUP #2006-0025). (P&Z)(T&ES)
51. A temporary informational sign shall be installed on the site prior to the approval of the final site plan for the project and shall be displayed until construction is complete; the sign shall notify the public of the nature of the upcoming project and shall provide a phone number for public questions regarding the project (DSUP #2006-0025). (P&Z)(T&ES)
52. Temporary construction trailers shall be permitted and be subject to the approval of the Directors of P&Z, T&ES, and Code Administration. The trailer(s) shall be located on the final site plan and removed prior to physical occupation of the impound lot. (P&Z)(T&ES) (Code) (DSUP#2011-00008)

**Q. MISCELLANEOUS:**

53. The applicant shall provide two (2) short-term / visitor bicycle parking racks at the ground level, preferably located within 50 yards of the building entrance. If the rack location is not apparent or immediately visible to visitors, provide standard, MUTCD compliant (D4-3) signs indicating location of bicycle parking. Racks may not be more than 200 yards from the building entrance. Bicycle rack locations are preferably covered and grouped. Short term racks shall be located in a manner that will not obstruct the existing / proposed sidewalks. City of Alexandria bicycle parking standards and details for acceptable locations are available at: [www.alexride.org/bicycleparking.php](http://www.alexride.org/bicycleparking.php) (DSUP #2006-0025). (T&ES)
54. Long term / employee bicycle parking, storage and changing rooms (DSUP #2006-0025):

- a. The applicant shall provide five (5) long-term / employee bicycle parking racks to the satisfaction of the Director of T&ES. If the racks location is not apparent or immediately visible, provide standard, MUTCD compliant (D4-3) signs indicating the location of bicycle parking. City of Alexandria bicycle parking standards and details for acceptable locations are available at:  
[www.alexride.org/bicycleparking.php](http://www.alexride.org/bicycleparking.php)
- b. The applicant shall provide two (2) shower(s) per gender and a minimum of ten (10) clothes storage lockers per gender. The lockers shall be accessible to all employees of the facility to the satisfaction of the Director of T&ES.
- c. To satisfy LEED Credit 4.2 (Alternative Transportation: Bicycle Storage and Changing Rooms) the combination of short-term/visitor parking and long-term/employee parking may be increased in the event that the number of bicycle parking spaces does not provide enough bicycle racks to provide for 5% or more of all building users during peak use periods. (T&ES)

**R. CONDITIONS RELATED TO ELECTRIC CHARGING FACILITY  
(DSUP 2025-10008):**

55. The final site plan and architectural elevations shall be consistent with the level of quality and detail provided in the preliminary site plan and associated architectural elevations dated May 27, 2025. (P&Z)(DSUP2025-10008) (P&Z)
56. The applicant shall provide landscape improvements that at a minimum provide the level of improvements depicted on the preliminary site plan dated May 27, 2025, to the satisfaction of the Director of P&Z. (P&Z)
57. The applicant shall provide pedestrian and streetscape improvements that at a minimum provide the level of improvements depicted on the preliminary site plan dated May 27, 2025, and shall also at a minimum provide the following to the satisfaction of the Director of P&Z. (P&Z)
58. The electric charging structure is exempt from the 2019 Green Building Policy as it is an open structure. (OFFICE of CLIMATE ACTION) (DSUP2025-10008)
59. Should any unanticipated contamination, underground storage tanks, drums or containers be encountered at the site during construction, the Applicant must immediately notify the City of Alexandria Department of Transportation and Environmental Services, Office of Environmental Quality. Should unanticipated conditions warrant, construction within the impacted area shall be stopped until the appropriate environmental reports identified by the City are submitted and approved at the discretion of the Director of Transportation and Environmental Services. (T&ES) (DSUP2025-10008)
60. Any damage of the City's existing public infrastructure that occurs during construction must be repaired pursuant to the most recent version of the T&ES Design and

Construction Standards Memo to Industry 23-01, or to the satisfaction of Director of T&ES. (T&ES) (DSUP2025-10008)

61. Full curb to curb restoration is required for any asphalt patches larger than 20 percent of the total asphalt surface, measured along the length of the road adjacent to the property frontage and/or extending to the centerline of the street. (T&ES) (DSUP2025-10008)
62. No vehicles associated with this project shall be permitted to idle for more than 10 minutes when parked, including construction vehicles, per 9 VAC 5-40-5670 of the Virginia State Code. (T&ES) (DSUP2025-10008)
63. Submit a separate construction management plan to the Directors of P&Z, T&ES, and Code Administration prior to Final Site Plan release. The plan shall satisfy these requirements:
  - a. Do not remove streetlights without authorization from the City of Alexandria,
  - b. If streetlights are to be removed from the public right-of-way, then provide temporary lights until the installation and commissioning of new lights,
  - c. Include an analysis as to whether temporary street or site lighting is needed for safety during the construction on the site and how it is to be installed,
  - d. Provide a detailed sequence of demolition and construction of improvements in the public right of way along with an overall proposed schedule for demolition and construction,
  - e. Include an overall proposed schedule for construction,
  - f. Include a plan for temporary pedestrian circulation,
  - g. Include the location and size of proposed construction trailers, if any,
  - h. Include a preliminary Maintenance of Traffic Plan as part of the construction management plan for informational purposes only, to include proposed controls for traffic movement, lane closures, construction entrances and storage of materials, and post copies of the plan in the construction trailer and give it to each contractor before they start work. (T&ES) (DSUP2025-10008)
64. Provide off-street parking for all construction workers without charge and ensure that all workers use this parking. For workers who use Metro, DASH, or another form of mass transit, subsidize a minimum of 50 percent of the fees. Complying with this condition shall be a component of the construction management plan, which shall be submitted prior to Final Site Plan release and approved by the Departments of P&Z and T&ES prior to commencing any construction activities. This plan shall:
  - a. Establish and provide verifiable details and/or agreements on the location of the parking to be provided at various stages of construction, how many spaces will be provided, how many construction workers will be assigned to the work site, and mechanisms which will be used to encourage the use of mass transit,
  - b. Post information on transit schedules and routes,



- c. The community liaison must manage parking actively for all construction workers and ensure compliance with the off-street parking requirement, and
- d. If the off-street construction worker parking plan is found to be violated during construction, a correction notice will be issued to the applicant. (T&ES) (DSUP2025-10008)

65. In the construction management plan, include chapters on:

- a. **Maintaining pedestrian access.** If sidewalks must be closed, pedestrian access shall be maintained adjacent to the site per Memo to Industry 04-18 throughout the construction of the project.
- b. **Maintaining bicycle access.** If a bicycle facility must be closed, bicycle access shall be maintained adjacent to the site per Memo to Industry 04-18 throughout the construction of the project.
- c. **Maintaining access to transit stops.** Stops shall remain open to the extent feasible for the duration of construction. Coordinate with the T&ES Transportation Planning Division at 703.746.4088 as well as the transit agency serving the stop.
- d. **Waste control program.** This program shall control waste (e.g., discarded building materials, concrete truck washout, chemicals, litter or trash, sanitary waste) and prevent offsite migration that may cause adverse impacts to neighboring properties or to the environment. Dispose of all waste offsite per all applicable. (T&ES) (DSUP2025-10008)

66. Conduct these pre-construction meetings:

- a. Walk/survey of the site prior to any land disturbing activities with T&ES Construction & Inspection and Code Administration staff to document existing conditions prior to Final Site Plan release.
- b. An in-person or virtual meeting to review the location of construction worker parking, plan for temporary pedestrian and vehicular circulation, and hours and overall schedule for construction prior to commencing demolition, clearing, and grading of the site. Notice all adjoining property owners, civic associations, and the Departments of P&Z and T&ES at least 14 calendar days before the meeting. Hold the meeting before any building or grading permits are issued.
- c. An in-person or virtual pre-installation/construction meeting to review the scope of landscaping installation procedures and processes with the P&Z landscape architect prior to starting work. (T&ES) (DSUP2025-10008)

67. Identify these individuals prior to Final Site Plan release:

- a. Certified Land Disturber (CLD) in a letter to the Division Chief of Permits & Inspections prior to any land disturbing activities and include the name on the Phase I Erosion and Sediment Control sheets. If the CLD changes during the project, then note the change in a letter to the Division Chief.
- b. Community liaison for the duration of the project. Provide their name and telephone number, including an emergency contact number, to residents, property managers,

and business owners whose property abuts the site. Display the sign until construction finishes. (T&ES) (DSUP2025-10008)

68. Submit a stamped electronic copy of a wall check survey completed by a licensed, certified public land surveyor or professional engineer when below-grade construction reaches the proposed finished grade. Ensure the wall check shows:
- a. Key dimensions of the building as shown on the approved Final Site Plan,
  - b. Key dimensions from the future face of finished wall above to the property line and any adjacent structures on the property,
  - c. Extent of any below-grade structures,
  - d. Foundation wall in place, and
  - e. Future face of finished wall above. (T&ES) (DSUP2025-10008)
69. Submit a stamped electronic copy of an as-built development site plan survey, per the *As-Built Development Site Plan Survey Checklist* prior to applying for a Certificate of Occupancy permit. A registered architect, engineer, or surveyor shall prepare the as-built plan. (T&ES) (DSUP2025-10008)

#### **CITY DEPARTMENT CODE COMMENTS**

Note: These comments approved with DSUP 2006-0025 and DSUP 2011-00008. No new comments added with DSUP2025-10008.

Legend: C – code requirement; R – recommendation; S – suggestion; F- finding

#### **Planning and Zoning**

- F-1 Revise the proposed plat of consolidation and the re-subdivision plat to include identify the newly subdivided lots as Lot 800 and Lot 801, rather than Lot 702 and 703. (P&Z)
- F-2 Revise the proposed plat of consolidation and the re-subdivision plat to be shown on an 18"x24" sheet with thin lines depicting the existing lots and a thicker line depicting the proposed lots. (P&Z)
- F-3 Revise the proposed plat of consolidation and the re-subdivision plat to depict the tax map numbers for all existing and surrounding parcels in dotted lines/words. (P&Z)

#### **Transportation and Environmental Services**

F-1 Since the record drawings, maps, and other documents of the City of Alexandria, State, and Federal agencies show the true north pointing upwards, therefore, the Site Plan shall show the true north arrow pointing upward as is customary; however, for the sake of putting the plan together and/or ease of understanding, the project north arrow pointing upward, preferably east, or west may be shown provided it is consistently shown in the same direction on all the sheets with no exception at all. The north arrow shall show the source of meridian. The project north

arrow pointing downward will not be acceptable even if, it is shown consistently on all the sheets. (T&ES)

F-2 The plan shall show sanitary and storm sewer, and water line in plan and profile in the first final submission and cross reference the sheets on which the plan and profile is shown, if plan and profile is not shown on the same sheet. Clearly label the sanitary and storm sewer, or water line plans and profiles. Provide existing and proposed grade elevations along with the rim and invert elevations of all the existing and proposed sanitary and storm sewer at manholes, and water line piping at gate wells on the respective profiles. Use distinctive stationing for various sanitary and storm sewers (if applicable or required by the plan), and water line in plan and use the corresponding stationing in respective profiles. (T&ES)

F-3 The Plan shall include a dimension plan with all proposed features fully dimensioned, and the property line clearly shown. (T&ES)

F-4 Include all symbols, abbreviations, and line types in the legend. (T&ES)

F-5 All storm sewers shall be constructed to the City of Alexandria standards and specifications. The minimum diameter for storm sewers shall be 18" in the public Right of Way (ROW) and the minimum size storm sewer catch basin lead shall be 15". The acceptable pipe material will be Ductile Iron Pipe (DIP) AWWA C-151 (ANSI A21.51) Class 52 or Reinforced Concrete Pipe (RCP) ASTM C-76 Class IV. For roof drainage system, Polyvinyl Chloride (PVC) ASTM 3034-77 SDR 26 and ASTM 1785-76 Schedule 40 pipes will be acceptable. The acceptable minimum and maximum velocities will be 2.5 fps and 15 fps, respectively. The storm sewers immediately upstream of the first manhole in the public Right of Way shall be owned and maintained privately (i.e., all storm drains not shown within an easement or in a public Right of Way shall be owned and maintained privately). (T&ES) (DSUP#2011-00008)

F-6 All sanitary sewers shall be constructed to the City of Alexandria standards and specifications. The minimum diameter of sanitary sewers shall be 10" in the public Right of Way and sanitary lateral 6" for all commercial and institutional developments; however, a 4" sanitary lateral will be acceptable for single family residences. The acceptable pipe materials will be Polyvinyl Chloride (PVC) ASTM 3034-77 SDR 26, ASTM 1785-76 Schedule 40, Ductile Iron Pipe (DIP) AWWA C-151 (ANSI A21.51) Class 52, or reinforced concrete pipe ASTM C-76 Class IV (For 12" or larger diameters); Class III may be acceptable on private properties. The acceptable minimum and maximum velocities will be 2.5 fps and 10 fps, respectively. Laterals shall be connected to the sanitary sewer through a manufactured "Y" or "T" or approved sewer saddle. Where the laterals are being connected to existing Terracotta pipes, replace the section of main and provide manufactured "Y" or "T", or else install a manhole. (T&ES) (DSUP#2011-00008)

F-7 Lateral Separation of Sewers and Water Mains: A horizontal separation of 10' (edge to edge) shall be provided between a storm or sanitary sewer and a water line; however, if this horizontal separation cannot be achieved then the sewer and water main shall be installed in separate trenches, and the bottom of the water main shall be at least 18" above of the top of the sewer. If both the horizontal and vertical separations cannot be achieved, then the sewer pipe material

shall be Ductile Iron Pipe (DIP) AWWA C-151 (ANSI A21.51) Class 52 and pressure tested in place without leakage prior to installation. (T&ES)

F-8 Crossing Water Main Over and Under a Sanitary or Storm Sewer: When a water main over crosses or under crosses a sanitary/storm sewer then the vertical separation between the bottom of one (i.e., sanitary/storm sewer or water main) to the top of the other (water main or sanitary/storm sewer) shall be at least 18" for the sanitary sewer and 12" for storm sewer; however, if this cannot be achieved then both the water main and the sanitary/storm sewer shall be constructed of Ductile Iron Pipe (DIP) AWWA C-151 (ANSI A21.51) Class 52 with joints that are equivalent to water main standards for a distance of 10 feet on each side of the point of crossing. A section of water main pipe shall be centered at the point of crossing, and the pipes shall be pressure tested in place without leakage prior to installation. Sewers crossing over the water main shall have adequate structural support (concrete pier support and/or concrete encasement) to prevent damage to the water main. Sanitary sewers under creeks and storm sewer pipe crossings with less than 6" clearance shall be encased in concrete. (T&ES) (DSUP#2011-00008)

F-9 No water main pipe shall pass through or come in contact with any part of sanitary/storm sewer manhole. Manholes shall be placed at least 10 feet horizontally from the water main whenever possible. When local conditions prohibit this horizontal separation, the manhole shall be of watertight construction and tested in place. (T&ES) (DSUP#2011-00008)

F-10 Crossing Existing or Proposed Utilities: Underground telephone, cable T.V., gas, and electrical duct banks shall be crossed maintaining a minimum of 12" of separation or clearance with water main, sanitary, or storm sewers. If this separation cannot be achieved, then the sewer pipe material shall be Ductile Iron Pipe (DIP) AWWA C-151 (ANSI A21.51) Class 52 and pressure tested in place without leakage prior to installation. Sewers and water main crossing over the utilities shall have adequate structural support (pier support and/or concrete encasement) to prevent damage to the utilities. (T&ES)

F-11 The rip rap shall be designed as per the requirements of Virginia Erosion and Sediment Control Handbook, Latest Edition. (T&ES)

F-12 Dimensions of parking spaces, aisle widths, etc. within the parking garage shall be provided on the plan. Note that dimensions shall not include column widths. (T&ES)

F-13 The applicant shall provide a transportation study that examines the impacts of proposed development on pedestrian, transit and vehicular traffic. (T&ES)

F-14 The Plan shall call out various storm and sanitary sewer and water structures in the plan and profile views. (T&ES)

F-15 Provide proposed elevations (contours and spot shots) in sufficient details on grading plan to clearly show the drainage patterns. (T&ES)

F-16 All sanitary laterals and/or sewers are to be maintained by the City. (T&ES)

F-17 A minimum of 30 feet separation between beginning of street corner radius and any driveway apron radius shall be maintained. (T&ES)

F-18 Project lies partially within an area described on historical maps as containing marine clays. Construction methodology and erosion and sediment control measures must account for the presence (or absence) of marine clay or highly erodible soils. (T&ES)

F-19 The applicant shall provide storage space for solid waste and recyclable materials containers as outlined in the City's "*Solid Waste and Recyclable Materials Storage Space Guidelines*", or to the satisfaction of the Director of Transportation & Environmental Services. The City's storage space guidelines and required Recycling Implementation Plan forms are available at: [www.alexandriava.gov](http://www.alexandriava.gov) or contact the City's Solid Waste Division at 703-519-3486 ext.132. (T&ES)

F-20 The site of the proposed impound lot is currently experiencing surcharged storm sewers that result in flooding of the site. The proposed plan includes interim drainage improvements to partially mitigate the drainage and flooding problems while the permanent solution is being implemented. The interim improvements include providing additional stormwater conveyance to the existing stormwater detention pond, constructed as part of DSUP #2006-00025. This detention facility has adequate detention capacity to manage additional flow as an interim condition. These minor improvements will help to improve the management of existing stormwater system without aggravating the existing conditions and creating any new problems or make the existing problems worse. It was determined by the City engineering staff that until the long-term improvements are constructed, the proposed storm water management improvements will minimally provide the desired relief. (T&ES) (DSUP#2011-00008)

F-21 Additional stormwater improvements were identified during the completion of DSUP #2006-00025 as being necessary to alleviate flooding on the DASH site. These additional improvements include an additional storm sewer drainage system crossing the CSX railroad tracks. These additional improvements are currently budgeted in the CIP and approval for the sewer crossing is being negotiated with CSX. (T&ES) (DSUP#2011-00008)

F-22 The plan must be prepared in compliance with the requirements of Memorandum to Industry 02-09 dated December 3, 2009. The memorandum is available at the following web address of the City of Alexandria  
(T&ES):<http://alexandriava.gov/uploadedFiles/tes/info/Memo%20to%20Industry%20No.%2002-09%20December%203,%202009.pdf> (DSUP#2011-00008)

C-1 All downspouts must be connected to a storm sewer by continuous underground pipe. (T&ES)

C-2 All easements and/or dedications must be recorded prior to release of the plan. (T&ES)

C-3 Plans and profiles of utilities and roads in public easements and/or public Right of Way must be approved prior to release of the plan. (T&ES)

C-4 All drainage facilities must be designed to the satisfaction of T&ES. Drainage divide maps and computations must be provided for approval. (T&ES)

C-5 Provide a phased erosion and sediment control plan consistent with grading and construction plan. (T&ES)

C-6 Per the Memorandum to Industry, dated July 20, 2005, the applicant is advised regarding a requirement that applicants provide as-built sewer data as part of the final as-built process. Upon consultation with engineering firms, it has been determined that initial site survey work and plans will need to be prepared using Virginia State Plane (North Zone) coordinates based on NAD 83 and NAVD 88. Control points/Benchmarks which were used to establish these coordinates should be referenced on the plans. To insure that this requirement is achieved, the applicant is requested to prepare plans in this format including initial site survey work if necessary. (T&ES)

C-7 Americans with Disability Act (ADA) ramps shall comply with the requirements of Memorandum to Industry No. 03-07 on Accessible Curb Ramps dated August 2, 2007 with truncated domes on the end of the ramp with contrasting color from the rest of the ramp. A copy of this Memorandum is available on the City of Alexandria website. (T&ES)

C-8 The applicant shall comply with the City of Alexandria's Noise Control Code, Title 11, Chapter 5, which sets the maximum permissible noise level as measured at the property line. (T&ES)

C-9 The applicant must comply with the Article XIII of the City of Alexandria Zoning Ordinance, which includes requirements for storm water pollutant load reduction, treatment of the water quality volume default, and storm water quantity management. (T&ES)

C-10 The applicant must comply with the City of Alexandria, Erosion and Sediment Control Code, Section 5, Chapter 4. This includes naming a Responsible Land Disturber on the Erosion and Sediment Control sheets prior to engaging in land disturbing activities in accordance with Virginia Erosion and Sediment Control Law. (T&ES)

C-11 All required permits from Virginia Department of Environmental Quality, Environmental Protection Agency, Army Corps of Engineers, and Virginia Marine Resources must be in place for all project construction and mitigation work prior to release of the final site plan. This includes the state requirement for a VSMP permit for land disturbing activities greater than 2500 SF. (T&ES)

C-12 All streets and alleys must comply with the City's Minimum Standards for Private Streets and Alleys. (T&ES)

C-13 Provide City standard pavement for Emergency Vehicle Easements (EVE). (T&ES)

C-14 All driveway entrances, sidewalks, curbing, etc. in the public ROW or abutting public ROW shall meet City design standards. (T&ES)

C-15 Applicants will be required to submit a Recycling Implementation Plan form to the Solid Waste Division, as outlined in Article H to Title 5 (Ordinance Number 4438), which requires all commercial properties to recycle. (T&ES)

### **Alexandria Sanitation Authority**

C-1 Ensure all discharges are in accordance with the City of Alexandria Code 4035.

R-1 Ensure that planned flow capacity does not exceed City of Alexandria allotted ASA plant capacity of 20.5.

R-2 Ensure in writing to ASA that additional flow planned does not exceed flow capacity in ASA Interceptors and Trunk Sewers during wet and average flow conditions.

R-3 Proposed construction and sewer discharge limits from new facility could be regulated by ASA Pretreatment. Provide a list of stored chemicals and clarify whether the bus wash/chassis wash is a closed loop.

F-1 Detailed sanitary sewer flow calculations are not shown on plans.

### **Code Enforcement**

F-1 The proposed security gates shall be equipped with an override system that opens the gates in the event of a power failure, activation of a siren, or through the use of a Knox Box key. These features shall be designed and installed to the satisfaction of the Director of Code Enforcement.

F-2 Provide a Fire Lane through the rear of the site on the proposed roadway. The Fire Lane shall be properly signed, 22 feet in width (minimum), have a minimum turning radii of R-25' and shall be free of parked vehicles at all times.

F-3 Provide hydrant coverage along the front and rear of the structures. Fire hydrants serving fire department connections (FDC) shall be located no closer than 40 feet and no greater than 100 feet from each FDC; on site fire hydrants shall be spaced with a maximum distance of three hundred (300) feet between hydrants and the most remote point of vehicular access on site.

F-4 Buildings shall be equipped with an automatic fire suppression system. Finding resolved.

F-5 Provide two Siamese connections located to the satisfaction of the Director of Code Enforcement.

F-6 A separate tap is required for the building fire service connection.

F-7 The fire hydrant located near the stormwater retention pond shall be moved along the rear access driveway.

F-8 All Emergency Vehicle Easements shall be designed to AASHTO HS-20 loading.

F-9 The FDC located at the southeast corner of the building is further than 100 feet from a fire hydrant. The FDC or hydrant must be relocated to comply with code requirement C-1.

C-1 The developer shall provide a separate Fire Service Plan which illustrates: a) emergency ingress/egress routes to the site; b) two fire department connections (FDC) to the building, one on each side/end of the building; c) fire hydrants located within one hundred (100) feet of each FDC; d) on site fire hydrants spaced with a maximum distance of three hundred (300) feet between hydrants and the most remote point of vehicular access on site; e) emergency vehicle easements (EVE) around the building with a twenty-two (22) foot minimum width; f) all Fire Service Plan elements are subject to the approval of the Director of Code Enforcement.

C-2 The final site plans shall show placement of fire easement signs. See attached guidelines for sign details and placement requirements. Acknowledged by applicant, attached guidelines were hand distributed to the applicant on 3/13/2008.

C-3 A soils report must be submitted with the building permit application.

C-4 Prior to submission of the Final Site Plan #1, the developer shall provide a fire flow analysis by a certified licensed fire protection engineer to assure adequate water supply for the structure being considered.

C-5 A Certificate of occupancy shall be obtained prior to any occupancy of the building or portion thereof, in accordance with USBC 119.0.

C-6 A fire prevention code permit is required for the proposed operation at the time of application for a Certificate of Occupancy.

C-7 New construction must comply with the current edition of the Uniform Statewide Building Code (USBC).

C-8 Required exits, parking, and accessibility within the building for persons with disabilities must comply with USBC Chapter 11.

C-9 This structure contains mixed use groups [B, Business; S-1, Moderate-Hazard Storage (motor vehicle repair garage), S-2, Low-Hazard Storage (public garage, group 2) and is subject to the mixed use and occupancy requirements of the USBC.

C-10 Prior to the issuance of a demolition permit or land disturbance permit, a rodent abatement plan shall be submitted to Code Enforcement that will outline the steps that will be taken to prevent the spread of rodents from the construction site to the surrounding community and sewers.



C-11 Roof drainage systems must be installed so as neither to impact upon, nor cause erosion/damage to adjacent property.

C-12 The public parking garage (Use Group S-2) is required to be equipped with a sprinkler system (USBC 903.2.9).

C-13 The public parking garage floor must comply with USBC 406.2.6 and drain through oil separators or traps to avoid accumulation of explosive vapors in building drains or sewers as provided for in the plumbing code (USBC 2901). This parking garage is classified as an S-2, Group 2, public garage.

C-14 Enclosed parking garages must be ventilated in accordance with USBC 406.4.2.

C-15 This garage with a gross square footage of is required to have an automatic sprinkler system throughout the structure to be in compliance with USBC 406.4.1 and 903.2.9.

C-16 A fire protective signaling system is required in the B, Business use group area (offices) which are located two or more stories above the lowest level of exit discharge (USBC 907.2.2).

C-17 Oil water separators are required where automobiles are services, greased, repaired, washed, or where gasoline is dispensed. The separator shall be designed and installed in accordance with the plumbing code.

C-18 The developer shall declare on the plans if the parking structure is considered a public parking structure complying with Chapter 4 of the USBC or an open parking structure. If the structure is declared as an open parking structure, the developer shall submit information detailing how the structure meets the openness criteria. If the structure is declared a public parking structure, the plans shall reflect required water and sewer lines, FDC's and oil / water separator locations.

C-19 The new handrails must comply with USBC for a minimum/maximum height of 30 to 34 inches. The ends must extend 12" beyond the top and bottom risers. The handgrip position must not be more than 2-1/4" in cross-sectional dimension, or the shape must provide an equivalent gripping surface. The handgrip portion must have a smooth surface with no sharp corners. The space between the wall and handrail must not be less than 1-1/2".

C-20 The new stairs must comply with USBC for riser and tread dimensions.

### **Fire Department**

C-1 Steps shall be taken to prevent the leaking of any motor vehicle fluids onto the ground or parking surface. Including but not limited to drip pans for leaking or severely damaged vehicles. Lot shall maintain sufficient quantities of spill equipment on-site. (DSUP #2011-0008)

C-2 Fence shall be equipped with a rapid entry system (KNOX BOX) and provided with a manual override system to allow emergency access. (DSUP #2011-0008)



## APPLICATION

### DEVELOPMENT SPECIAL USE PERMIT with SITE PLAN

**DSUP #** 2025-10008

**Project Name:** DASH Bus Facility Expansion

**PROPERTY LOCATION:** 3000 Business Center Drive

**TAX MAP REFERENCE:** 061.04-02-26

**ZONE:** I

#### APPLICANT:

Name: Bradley Otto, P.E.

Address:

#### PROPERTY OWNER:

Name: City of Alexandria, VA

Address: 3000 Business Center Drive

**SUMMARY OF PROPOSAL** Verification Set -DSUP Site Plan Submission to accommodate the construction of a bus charging facility for DASH.

#### MODIFICATIONS REQUESTED

**SUP's REQUESTED** Verification Set Site Plan (DSUP)

☒ **THE UNDERSIGNED** hereby applies for Development Site Plan with Special Use Permit approval in accordance with the provisions of Section 11-400 of the Zoning Ordinance of the City of Alexandria, Virginia.

☒ **THE UNDERSIGNED**, having obtained permission from the property owner, hereby grants permission to the City of Alexandria to post placard notice on the property for which this application is requested, pursuant to Article XI, Section 11-301 (B) of the 1992 Zoning Ordinance of the City of Alexandria, Virginia.

☒ **THE UNDERSIGNED** also attests that all of the information herein provided and specifically including all surveys, drawings, etc., required of the applicant are true, correct and accurate to the best of his/her knowledge and belief.

Bradley J. Otto, P.E.

Print Name of Applicant or Agent

Mailing/Street Address

City and State

Zip Code

Signature

Telephone #

Fax #

Email address

5-28-2025

Date

#### DO NOT WRITE IN THIS SPACE - OFFICE USE ONLY

Application Received: \_\_\_\_\_

Received Plans for Completeness: \_\_\_\_\_

Fee Paid and Date: \_\_\_\_\_

Received Plans for Preliminary: \_\_\_\_\_

ACTION - PLANNING COMMISSION: \_\_\_\_\_

ACTION - CITY COUNCIL: \_\_\_\_\_

## ALL APPLICANTS MUST COMPLETE THIS FORM.

Supplemental forms are required for child care facilities, restaurants, automobile oriented uses and freestanding signs requiring special use permit approval.

**1. The applicant is: (check one)**

- ☐ The Owner    
 ☐ Contract Purchaser    
 ☐ Lessee or    
 ☐ Other: Design-Builder of  
 the subject property.

State the name, address and percent of ownership of any person or entity owning an interest in the applicant, unless the entity is a corporation or partnership in which case identify each owner of more than three percent.

Keller Construction Management, a division of Keller Brothers, Inc. (Design-Builder)  
 Phillip Keller, Jr. - 100% owner

Applicant

Bradley J. Otto, P.E.

Senior Preconstruction Manager

If property owner or applicant is being represented by an authorized agent, such as an attorney, realtor, or other person for which there is some form of compensation, does this agent or the business in which the agent is employed have a business license to operate in the City of Alexandria, Virginia?

- ☒ **Yes.** Provide proof of current City business license. **ATTACHED TO THIS APPLICATION**  
☐ **No.** The agent shall obtain a business license prior to filing application, if required by the City Code.

## OWNERSHIP AND DISCLOSURE STATEMENT

Use additional sheets if necessary

**1. Applicant.** State the name, address and percent of ownership of any person or entity owning an interest in the applicant, unless the entity is a corporation or partnership, in which case identify each owner of more than three percent. The term ownership interest shall include any legal or equitable interest held at the time of the application in the real property which is the subject of the application.

| Name                   | Address | Percent of Ownership |
|------------------------|---------|----------------------|
| 1. Phillip Keller, Jr. |         | 100%                 |
| 2.                     |         |                      |
| 3.                     |         |                      |

**2. Property.** State the name, address and percent of ownership of any person or entity owning an interest in the property located at 3000 Business Center Drive (address), unless the entity is a corporation or partnership, in which case identify each owner of more than three percent. The term ownership interest shall include any legal or equitable interest held at the time of the application in the real property which is the subject of the application.

| Name                      | Address | Percent of Ownership |
|---------------------------|---------|----------------------|
| 1. City of Alexandria, VA |         | 100%                 |
| 2.                        |         |                      |
| 3.                        |         |                      |

**3. Business or Financial Relationships.** Each person or entity listed above (1 and 2), with an ownership interest in the applicant or in the subject property is required to disclose any business or financial relationship, as defined by Section 11-350 of the Zoning Ordinance, existing at the time of this application, or within the 12-month period prior to the submission of this application with any member of the Alexandria City Council, Planning Commission, Board of Zoning Appeals or either Boards of Architectural Review.

| Name of person or entity | Relationship as defined by Section 11-350 of the Zoning Ordinance | Member of the Approving Body (i.e. City Council, Planning Commission, etc.) |
|--------------------------|-------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1.                       |                                                                   |                                                                             |
| 2.                       |                                                                   |                                                                             |
| 3.                       |                                                                   |                                                                             |

NOTE: Business or financial relationships of the type described in Sec. 11-350 that arise after the filing of this application and before each public hearing must be disclosed prior to the public hearings.

As the applicant or the applicant's authorized agent, I hereby attest to the best of my ability that the information provided above is true and correct.

5-28-2025

Bradley J. Otto, P.E.

Date

Printed Name

Signature

- C. Where is required parking located? (check one) ☒ **on-site** ☐ **off-site**

If the required parking will be located off-site, where will it be located?

---

Pursuant to section 8-200 (C) of the zoning ordinance, commercial and industrial uses may provide off-site parking within 500 feet of the proposed use, provided that the off-site parking is located on land zoned for commercial or industrial uses. All other uses must provide parking on-site, except that off-street parking may be provided within 300 feet of the use with a special use permit.

- D. If a reduction in the required parking is requested, pursuant to section 8-100 (A) (4) or (5) of the zoning ordinance, complete the **Parking Reduction Supplemental Application**.

**14. Provide information regarding loading and unloading facilities for the use:**

- A. How many loading spaces are required for the use, per section 8-200 (B) of the zoning ordinance? N/A
- B. How many loading spaces are available for the use? N/A
- C. Where are off-street loading facilities located? N/A
- D. During what hours of the day do you expect loading/unloading operations to occur?  
TBD depending on owner operations.
- E. How frequently are loading/unloading operations expected to occur, per day or per week, as appropriate?  
TBD depending on owner operations.

**15. Is street access to the subject property adequate or are any street improvements, such as a new turning lane, necessary to minimize impacts on traffic flow?**

Entry to site from Business Center Drive will be improved as shown on plans.



## 2025 City of Alexandria Business License

Finance Department, Revenue Administration Division, City of Alexandria  
301 King Street, Room 1700, Alexandria, VA 22314  
Phone: 703.746.4800 <http://www.alexandriava.gov/>

**License Number:** 143086-2025  
**Account Number:** 143086  
**Tax Period:** 2025  
**Business Name:** Keller Brothers, Inc  
**Trade Name:** Keller Brothers, Inc  
**Business Location:** No City Address  
Mount Airy, MD 21771

Keller Brothers, Inc  
[Redacted]

**License Classification(s):**

Out of State Contractor  
0-000-000  
Out of State Contractor

February 14, 2025

Dear Taxpayer:

This is your 2025 City of Alexandria Business License. The bottom portion of this page is perforated to allow you to tear off and post the business license in your establishment.

If you paid for your business license via check, please be aware that if your check is not honored by your financial institution, this business license shall be invalid.

As with all taxes, our goal is to administer Business License taxes fairly and in accordance with Commonwealth and Locality code. Our staff strives to provide professional assistance and quality customer service. Your satisfaction is important to us and your comments are always welcome.

If you have any questions regarding this letter, please visit <http://www.alexandriava.gov/> or contact my office via phone at 703.746.4800.

Finance Department, Revenue Administration Division, City of Alexandria

*Keep this letter for your records.*

### City of Alexandria Business License

Revenue Administration Division, City of Alexandria, 301 King Street, Room 1700, Alexandria, VA 22314



This license has been issued by the Revenue Administration Division of the City of Alexandria and is granted to:

Keller Brothers, Inc  
No City Address  
[Redacted]

**License Number:** 143086-2025  
**Account Number:** 143086  
**Tax Period:** 2025  
**Business Name:** Keller Brothers, Inc  
**Trade Name:** Keller Brothers, Inc  
**Business Location:** No City Address  
[Redacted]

**License Classification(s):** Out of State Contractor  
0-000-000  
Out of State Contractor

# DASH BUS FACILITY EXPANSION

## CITY OF ALEXANDRIA

VERIFICATION SUBMISSION - MAY 27, 2025

DSUP #2025-10008

RRMM ARCHITECTS, PC

ARCHITECTURE / PLANNING / INTERIORS

1317 Executive Boulevard, Suite 200  
Chesapeake, VA 23320  
(757) 622-2828

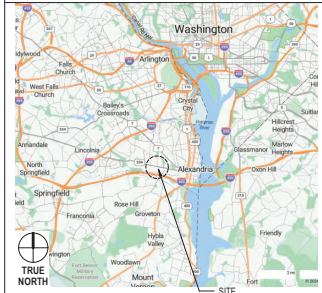
115 South 15th Street, Suite 502  
Richmond, VA 23219  
(804) 277-8987

2900 South Quincy Street, Suite 710  
Arlington, VA 22206  
(703) 998-0101

28 Church Avenue SW  
Roanoke, VA 24011  
(540) 344-1212

3700 Koppers Street, Suite 300  
Baltimore, MD 21227  
(410) 234-8444

VICINITY MAP



CONSULTANTS

KELLER CONSTRUCTION MANAGEMENT  
A DIVISION OF KELLER BROTHERS, INC.  
**DESIGN-BUILDER**  
1012 Rising Ridge Road  
Mt Airy, MD 21771  
301-607-9300

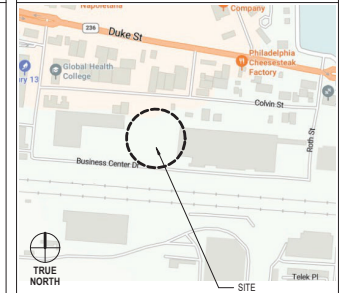
KCI TECHNOLOGIES INC.  
**MEP & STRUCTURAL ENGINEERING**  
11830 West Market Place, Suite F  
Fulton, MD 20759  
412-824-7047

A. MORTON THOMAS & ASSOCIATES, INC.  
**CIVIL ENGINEERING**  
3076 Centreville Road, Suite 220  
Herndon, VA 20171  
703-817-1373

OWNER

CITY OF ALEXANDRIA, VIRGINIA  
DEPARTMENT OF GENERAL SERVICES  
421 King Street, Suite 220  
Alexandria, VA 22314  
Contact: Jenine Kotob, AIA  
Phone: 703-346-2611

LOCATION MAP



SHEET INDEX II

| Sheet Number | Sheet Title |
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PROJECT TITLE SHEET

|       |             |
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| G-001 | TITLE SHEET |
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CIVIL

|        |                                              |
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| C-001  | COVER SHEET                                  |
| C-002  | DSUP AND CODE REQUIREMENTS                   |
| C-003  | DSUP AND CODE REQUIREMENTS                   |
| C-004  | DSUP AND CODE REQUIREMENTS                   |
| C-005  | GENERAL NOTES                                |
| C-006  | GENERAL NOTES                                |
| C-007  | GENERAL NOTES                                |
| C-101  | EXISTING CONDITIONS PLAN                     |
| LF-101 | TREE INVENTORY AND CONDITIONS ANALYSIS       |
| LF-102 | TREE PRESERVATION PLAN AND NARRATIVE         |
| C-102  | DEMOLITION PLAN                              |
| C-103  | EROSION AND SEDIMENT CONTROL PLAN - PHASE I  |
| C-104  | EROSION AND SEDIMENT CONTROL PLAN - PHASE II |
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| C-106  | EROSION AND SEDIMENT CONTROL DETAILS         |
| C-107  | SITE PLAN                                    |
| C-108  | DIMENSION PLAN                               |
| C-109  | GRADING PLAN                                 |
| C-110  | UTILITY PLAN                                 |
| C-111  | FIRE SERVICE ACCESS PLAN                     |
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| C-113  | CONTEXTUAL AND OPEN SPACE PLAN               |
| C-114  | VEHICULAR MOVEMENTS PLAN                     |
| C-115  | SIGHT DISTANCE PROFILES                      |
| C-116  | SOILS MANAGEMENT PLAN                        |
| C-201  | STORM SEWER PROFILES                         |
| C-202  | STORM SEWER PROFILES                         |

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| C-500  | SITE DETAILS                            |
| C-501  | SITE DETAILS                            |
| C-502  | SITE DETAILS                            |
| C-503  | UTILITY DETAILS                         |
| C-504  | UTILITY DETAILS                         |
| C-701  | STORM WATER MANAGEMENT PLAN             |
| C-702  | STORMWATER MANAGEMENT QUANTITY ANALYSIS |
| C-703  | STORMWATER MANAGEMENT QUANTITY ANALYSIS |
| C-704  | STORMWATER MANAGEMENT QUANTITY ANALYSIS |
| C-705  | ADEQUATE OUTFALL ANALYSIS               |
| C-706  | STORMWATER MANAGEMENT DETAILS           |
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STRUCTURAL

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| S-002 | STRUCTURAL GENERAL NOTES          |
| S-003 | SPECIAL INSPECTIONS               |
| S-011 | STRUCTURAL SCHEDULES              |
| S-101 | FOUNDATION AND SLAB ON GRADE PLAN |
| S-102 | MEZZ. AND LOW ROOF FRAMING PLAN   |
| S-103 | CANOPY ROOF FRAMING PLAN          |
| S-104 | ROOF DECK ATTACHMENT PLAN         |
| S-111 | STRUCTURAL SECTIONS               |
| S-201 | TYPICAL FOUNDATION DETAILS        |
| S-202 | TYPICAL FOUNDATION DETAILS        |
| S-203 | COLUMN FOUNDATION DETAILS         |
| S-204 | FOUNDATION DETAILS                |
| S-301 | TYPICAL STEEL DETAILS             |
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| LS101 | LIFE SAFETY PLANS & SUPPORTING DATA |
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ARCHITECTURAL

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| A-004 | MASSING STUDY                        |
| A-101 | FIRST FLOOR PLAN                     |
| A-102 | EQUIPMENT PLATFORM AND LOW ROOF PLAN |
| A-103 | HIGH ROOF PLAN                       |
| A-200 | BUILDING ELEVATIONS - RENDERED       |
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| A-300 | SITE SECTIONS                        |
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PLUMBING

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| E-101      | ELECTRICAL POWER PLAN - FIRST FLOOR           |
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| E-601      | ELECTRICAL ONE LINE DIAGRAM                   |
| E-701      | ELECTRICAL SCHEDULES                          |

Grand total: 94

|           |
|-----------|
| DES       |
| BY        |
| DATE      |
| REVISIONS |

|          |            |
|----------|------------|
| DATE     | 05/27/2025 |
| PROJECT  | 23259-00   |
| DESIGNED | KOL        |
| DRAWN    | OAD        |
| CHECKED  | KOL        |



RRMM<sup>®</sup>  
ARCHITECTS, PC  
200 South Quincy Street, Suite 710  
Arlington, Virginia 22206  
(703) 998-0101



PROJECT DASH BUS FACILITY EXPANSION  
City of Alexandria, VA  
3000 Business Center Drive  
Alexandria, VA 22314  
DRAWING TITLE SHEET

SHEET

G-001



DASH BUS FACILITY EXPANSION  
CITY OF ALEXANDRIA  
NOT FOR CONSTRUCTION

ENVIRONMENTAL SITE ASSESSMENT VICINITY MAP 8A Z ZONING TABULATIONS

THE SITE IS LOCATED WITHIN THE CHESAPEAKE BAY PRESERVATION AREA, AND THE CAMERON RUN WATERSHED. ACCORDING TO CITY OF ALEXANDRIA GIS INFORMATION AND FEMA MAPS, THERE ARE NO KNOWN WETLANDS, WATERS OF THE UNITED STATES, RESOURCE PROTECTION AREAS, OR 100-YEAR FLOODPLAINS WITHIN THE PROJECT AREA. THEREFORE NO WETLAND PERMITS ARE REQUIRED FOR THIS PROJECT. ACCORDING TO THE CITY OF ALEXANDRIA'S MARINE CLAY AREAS MAP DATED NOVEMBER 1976, THERE ARE NO KNOWN MARINE CLAY ON SITE. REFER TO DASH BUS FACILITY EXPANSION GEOTECHNICAL REPORT, SEPTEMBER 2022, AND DASH FACILITY EXPANSION LIMITED PHASE II ENVIRONMENTAL SITE ASSESSMENT, DECEMBER 2022, FOR SOIL AND CONTAMINATION INFORMATION.

## SOILS DATA

06 KINGSTOWNE SANDY CLAY LOAM (0-45% SLOPES)  
95 URBAN LAND

A COMPLETE SOILS INVESTIGATION HAS NOT BEEN PERFORMED BY AMT. NO MARINE CLAYS WERE SHOWN ON SOIL MAP FOR THIS SITE PER USDA NRCS SOIL DATA EXPLORATION. THE SITE WAS USED AS AN IMPOUND LOT PREVIOUSLY. NO KNOWN HISTORIC ITEMS OF SIGNIFICANCE ARE PRESENT.

|  |                          |                     |
|--|--------------------------|---------------------|
|  | TRANSPORTATION           | 11,037 SF           |
|  |                          | 25,887 SF SUB-TOTAL |
|  | NON OFFICE / MAINTENANCE |                     |

[illegible]

6/23/2021 10:25:42AM LOCAL 12 125610-07
AREA TABULATIONS

|                                                                  |                                                         |
|------------------------------------------------------------------|---------------------------------------------------------|
| TOTAL SITE AREA = <u>1.51</u> AC <u>65,612</u> SF                | DISTURBED AREA OFFSITE = <u>0</u> AC <u>0</u> SF        |
| TOTAL AREA OF TAX PARCEL = <u>9.21</u> AC <u>401,240</u> SF      | DISTURBED AREA ONSITE = <u>1.51</u> AC <u>65,612</u> SF |
| TOTAL EXISTING IMPERVIOUS AREA = <u>1.04</u> AC <u>45,293</u> SF | TOTAL DISTURBED AREA = <u>1.51</u> AC <u>65,612</u> SF  |
| TOTAL PROPOSED IMPERVIOUS AREA = <u>1.29</u> AC <u>56,041</u> SF |                                                         |

| SANITARY OUTFALL ANALYSIS    |                     |
|------------------------------|---------------------|
| SECOND FLOOR: ADMINISTRATION | 7,486 SF            |
| TRANSPORTATION               | 9,753 SF            |
|                              | 17,239 SF SUB-TOTAL |

THIS DEVELOPMENT DOES NOT PRODUCE SANITARY SEWER DISCHARGES. THE PROJECT IS NOT LOCATED IN A COMBINED SEWER AREA.

**NOISE ASSESSMENT**

ALL CONSTRUCTION ACTIVITIES MUST COMPLY WITH THE ALEXANDRIA NOISE CONTROL CODE TITLE 11, CHAPTER 5, AND DIVISION 01 SPECIFICATION REQUIREMENTS WHICH PERMITS CONSTRUCTION ACTIVITIES TO OCCUR BETWEEN THE FOLLOWING HOURS:

- MONDAY THROUGH FRIDAY FROM 7 AM TO 5 PM AND
- SATURDAY AND SUNDAY WORK MAY BE EXECUTED AT ALL HOURS WITH 5 DAYS PRIOR NOTICE AND APPROVAL OF THE OWNER.

NOTES

1. CONTRACTOR SHALL ENSURE ALL DISCHARGES ARE IN ACCORDANCE WITH CITY OF ALEXANDRIA CODE TITLE 5, CHAPTER 6, ARTICLE B.
2. DEWATERING AND OTHER CONSTRUCTION RELATED DISCHARGE LIMITS TO THE SEWER SYSTEM ARE REGULATED BY ALEXRENEW PRETREATMENT. CONTRACTOR IS REQUIRED TO CONTACT ALEX RENEW'S PRETREATMENT COORDINATOR AT 703-549-3381 X2020.

SPECIAL USE PERMITS/ZONING MODIFICATIONS/WAIVERS

PRIOR DEVELOPMENT SPECIAL USE PERMITS:

1. DSUP 2006-00025 - ORIGINAL APPROVAL OF THE DASH FACILITY AS A PUBLIC BUILDING
2. DSUP 2011-00008 - AMENDMENT TO INCLUDE AN IMPOUND LOT

1. DEVELOPMENT SPECIAL USE PERMIT TO AMEND DSUP 2011-00008 TO ADD A NEW PUBLIC BUILDING IN THE INDUSTRIAL ZONE

|              |  |                           |
|--------------|--|---------------------------|
| PROJECT TEAM |  | PROPOSED: <u>A</u><br>N/A |
|--------------|--|---------------------------|

OWNER:  
CITY OF ALEXANDRIA, VA  
DEPARTMENT OF GENERAL SERVICES  
421 KING STREET, SUITE 220  
ALEXANDRIA, VA 22314  
CONTACT: JENINE KOTOB  
PHONE: (703) 346-2611

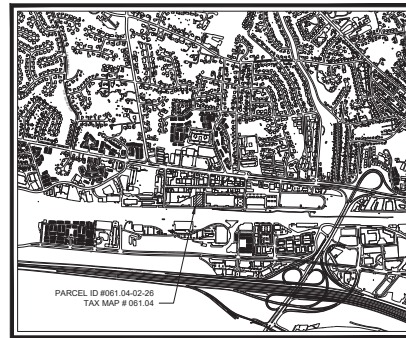
GENERAL CONTRACTOR:  
KELLER BROTHERS  
1012 RISING RIDGE ROAD  
MT. AIRY, MD 21771  
CONTACT: BRAD OTTO, PE  
PHONE: (301) 607-9300 x 302

CIVIL ENGINEER:  
A. MORTON THOMAS AND ASSOCIATES, INC  
3076 CENTREVILLE ROAD, SUITE 220  
HERNDON, VIRGINIA 20171  
CONTACT: CHELSEA BISHOP, PE  
PHONE: (703) 635-1503

PROJECT SPONSOR:  
ALEXANDRIA TRANSIT COMPANY (DASH)  
3000 BUSINESS CENTER DRIVE  
ALEXANDRIA, VA 22314  
CONTACT: RAYMOND MUI  
PHONE: (703) 746-5645

ARCHITECT & INTERIORS:  
RRMM ARCHITECTS  
2900 SOUTH QUINCY STREET  
ARLINGTON, VA 22206  
CONTACT: KEITH LEONARD, AIA, LEED AP  
PHONE: (703) 677-5653

STRUCTURAL ENGINEER:  
KCI TECHNOLOGIES, INC.  
11830 WEST MARKET PLACE, SUITE F  
FULTON, MD 20759  
CONTACT: COREY SHANK, PE  
PHONE: (410) 527-4405



SCALE: 1"=1000'

## ZONING TABULATIONS

1. ZONE OF SITE: I-INDUSTRIAL
2. USE: EXISTING: (PUBLIC BUILDING) BUS OPERATIONS FACILITY AND IMPOUND LOT  
PROPOSED: (PUBLIC BUILDING) PROPOSED CANOPY STRUCTURE FOR 24 ADDITIONAL BUSES WITH EV CHARGING

- |                                          |                                           |
|------------------------------------------|-------------------------------------------|
| 3. LOT AREA: <u>9.21 AC (401,240 SF)</u> | MINIMUM LOT AREA: <u>N/A</u>              |
| 4. NUMBER OF DWELLING UNITS: <u>N/A</u>  |                                           |
| 5. UNITS PER ACRE: <u>N/A</u>            |                                           |
| 6. GROSS SQUARE FOOTAGE (GSF):           |                                           |
| EXISTING:                                | <u>GSF</u>                                |
| OFFICE: MAINTENANCE                      | 6,302 SF                                  |
| ADMINISTRATION                           | 8,528 SF                                  |
| TRANSPORTATION                           | <u>11,037 SF</u>                          |
|                                          | 25,867 SF SUB-TOTAL                       |
| NON-OFFICE: MAINTENANCE                  | 22,318 SF                                 |
| SERVICE                                  | 18,121 SF                                 |
| BUS STORAGE                              | 90,201 SF (NOT INCLUDED IN PARKING CALC.) |
| PARKING UNDER THE RAMP                   | 3,319 SF                                  |
| AREA UNDER ENTRY CANOPY                  | 130 SF                                    |
| AREA UNDER PARTS CANOPY                  | 232 SF                                    |
|                                          | <u>134,311 SF SUB-TOTAL</u>               |

- |                              |                      |
|------------------------------|----------------------|
| TOTAL GROSS:                 | <u>160,178 SF</u>    |
| PROPOSED 14,850 SF           |                      |
| PROPOSED TOTAL (GSF):        | <u>175,028 SF</u>    |
| 7. NET SQUARE FOOTAGE (NSF)  |                      |
| EXISTING: <u>USE</u>         | <u>NSF</u>           |
| FIRST FLOOR: BUS STORAGE     | 89,281 SF            |
| SERVICE                      | 12,856 SF            |
| MAINTENANCE                  | <u>31,587 SF</u>     |
|                              | 133,724 SF SUB-TOTAL |
| SECOND FLOOR: ADMINISTRATION | 7,486 SF             |
| TRANSPORTATION               | 9,753 SF             |
|                              | 17,239 SF SUB-TOTAL  |
| TOTAL NET:                   | <u>150,963 SF</u>    |
| PROPOSED 15,127 SF           |                      |
| PROPOSED TOTAL (NSF):        | <u>166,090 SF</u>    |

8. FLOOR AREA RATIO:  
 EXISTING: 0.3992  
 PROPOSED: 0.0370  
 TOTAL: 0.4362 (MAX. ALLOWABLE IS 0.85)

9. OPEN SPACE:  
EXISTING: 119,744 SF  
PROPOSED: 109,488 SF
10. AVERAGE FINISHED GRADE: 40.08' TO 41.00'
11. HEIGHT:  
EXISTING: 38.1 FT  
PROPOSED: 35.25 FT (MAX. ALLOWABLE IS 50 FEET)

12. YARDS/SETBACKS: N/A
13. FRONTAGE: N/A
14. PARKING SUMMARY: (BUS STORAGE/PARKING IS EXCLUDED FROM THE PARKING SUMMARY)
- REQUIRED: 235 (EXISTING DASH FACILITY)
- EXISTING: 356 (8 ADA ACCESSIBLE), ADDITIONAL 11 MOTORCYCLE PARKING SPACES
- ROOFTOP: 264 (7 ADA ACCESSIBLE)
- SURFACE: 92 (1 ADA ACCESSIBLE)
- PROPOSED: N/A

15. LOADING SPACES:
- |           |            |
|-----------|------------|
| REQUIRED: | <u>2</u>   |
| EXISTING: | <u>2</u>   |
| PROPOSED: | <u>N/A</u> |

|                                                                                     |                                                                                     |                                                                                                                                                                                                                                                       |                                                                                                                 |                 |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|-----------------|
|  |  | <b>A MORTON THOMAS AND ASSOCIATES, INC.</b><br>CONSULTING ENGINEERS<br>300 EAST PALM BLVD. #220<br>HERRINGDALE, VA 22801<br>PHONE: (434) 441-2700<br>FAX: (434) 441-2707<br>EMAIL: <a href="mailto:AMT@AMTENGINEERING.COM">AMT@AMTENGINEERING.COM</a> | DATE: 06/23/2025                                                                                                | DRAWN: CMC, LLC |
|                                                                                     |                                                                                     |                                                                                                                                                                                                                                                       | PROJ. MANAGER: <b>CHRIS BOOP, P.E.</b> <a href="mailto:EMAIL@BOOPENGINEERING.COM">EMAIL@BOOPENGINEERING.COM</a> | SCALE: 1"=100'  |

[illegible]

CITY OF ALEXANDRIA  
DASH FACILITY  
3000 BUSINESS CENTER DRIVE  
ALEXANDRIA, VIRGINIA 22314

DEVELOPMENT PRELIMINARY PLAN SUBMISSION • NOT FOR CONSTRUCTION

SHEET NAME: COVER SHEET

|                                                       |               |          |
|-------------------------------------------------------|---------------|----------|
| <b>APPROVED</b>                                       |               |          |
| <b>SPECIAL USE PERMIT NO.</b>                         |               |          |
| DEPARTMENT OF PLANNING & ZONING                       |               |          |
| DIRECTOR                                              |               | DATE     |
| DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES |               |          |
| SITE PLAN No. _____                                   |               |          |
| DIRECTOR                                              |               | DATE     |
| CHAIRMAN, PLANNING COMMISSION                         |               |          |
| DATE RECORDED _____                                   |               | DATE     |
| INSTRUMENT NO.                                        | DEED BOOK NO. | PAGE NO. |



Job No. 23-0754.001

CITY OF ALEXANDRIA  
DASH FACILITY  
3000 BUSINESS CENTER DRIVE  
ALEXANDRIA, VIRGINIA 22314

SHEET NAME: \_\_\_\_\_  
DSUP AND CODE REQUIREMENTS

[illegible]

DEVELOPMENT PRELIMINARY PLAN SUBMISSION - NOT FOR CONSTRUCTION

SHEET NAME: DSUP AND CODE REQUIREMENTS

|                                                                                     |                                                                                                                                                                                                                   |                     |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
|  | <b>DESIGN, LANDSCAPE, ARCHITECT &amp; DESIGN ENGINEER</b>                                                                                                                                                         |                     |
|                                                                                     | <b>AMT</b><br><b>A Metropolitan Planning Associates, Inc.</b><br>CONSULTING ENGINEERS<br>300 WEST WASHINGTON STREET<br>ANN ARBOR, MI 48107-2200<br>TEL: 734.769.4100 FAX: 734.769.4101<br>WWW.AMT-ENGINEERING.COM |                     |
| PROJECT: <b>MANAGER: DESIGN</b>                                                     | DATE: 06/21/2024                                                                                                                                                                                                  | DRAWING: <b>1.C</b> |
| SCALE: 1"=30'                                                                       | 002/2024                                                                                                                                                                                                          |                     |

Job No. 23-0754.001

Job No. 23-0754.001

CITY OF ALEXANDRIA  
DASH FACILITY  
3000 BUSINESS CENTER DRIVE  
ALEXANDRIA, VIRGINIA 22314

SHEET NAME: \_\_\_\_\_  
DSUP AND CODE REQUIREMENTS

[illegible]

DEVELOPMENT PRELIMINARY PLAN SUBMISSION - NOT FOR CONSTRUCTION

|                                                                                                                                                                                                                  |                                                                                     |                         |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------|
|                                                                                                                               | <b>DESIGN LANDSCAPE ARCHITECT &amp; DESIGN ENGINEER</b>                             |                         |
|                                                                                                                                                                                                                  |  |                         |
| <b>A. M. T. LANDSCAPE ARCHITECTS, P.C.</b><br>300 WEST 125TH STREET, 2ND FLOOR<br>NEW YORK, NY 10027<br>PHONE: 212-691-1000 FAX: 212-691-1001<br>EMAIL: <a href="mailto:AMT@AMTDESIGN.COM">AMT@AMTDESIGN.COM</a> |                                                                                     |                         |
| PROJ. MANAGER: <b>BRUCE J. E.</b>                                                                                                                                                                                | DATE: <b>02/27/2025</b>                                                             | DRAWING NO: <b>1-02</b> |

THIS PROJECT IS TO BE COMPLETED USING A DESIGN/BUILD CONTRACT.

1. HORIZONTAL DATUM: VIRGINIA STATE PLANE NORTH, NAD83 (2011)  
VERTICAL DATUM: NAVD 88.

- FOR EXACT LOCATIONS OF EXISTING UNDERGROUND UTILITIES, NOTIFY "MISS UTILITY" AT 1-800-257-7777 AND 811 72 HOURS BEFORE THE START OF ANY EXCAVATION OR CONSTRUCTION. THE CONSTRUCTION WORKERS AND CONTRACTOR(S) ARE ENCOURAGED TO VISIT DOMINION VIRGINIA POWER WEB SITE AT [WWW.DOM.COM](http://WWW.DOM.COM) (KEYWORD SAFETY) FOR ADDITIONAL SAFETY INSTRUCTIONS.

3. LOCATION AND DEPTH OF ALL EXISTING UNDERGROUND UTILITIES TO BE VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR/ENGINEER SHOULD DIG TEST PITS BY HAND AT ALL UTILITY CROSSINGS TO VERIFY EXACT LOCATION.

4. PROPERTY INFORMATION SHOWN HEREON WAS TAKEN FROM DEEDS OF RECORD AND BEST FIT TO FIELD FOUND EVIDENCE AND DOES NOT REPRESENT A BOUNDARY SURVEY.

1. THE SUBJECT SITE IS LOCATED ON CITY OF ALEXANDRIA ASSESSMENT MAPS 061.04 AND 071.02 AS PARCEL 061.04-02-26 AND ZONED I - INDUSTRIAL.

2. OWNER:  
CITY OF ALEXANDRIA  
DEPARTMENT OF GENERAL SERVICES  
421 KING STREET, SUITE 220  
ALEXANDRIA, VA 22314
3. INSTRUMENT# 090001513
4. ADDRESS : 3000 BUSINESS CENTER DR., CITY OF ALEXANDRIA, VIRGINIA.
5. AREA TABULATION: 9.21 ACRES (401,240 SF) SEE COVER SHEET UNDER AREA TABULATIONS.
6. THE NATURAL SOILS: PER NRCS CITY OF ALEXANDRIA, VA SOILS MAP, THE SITE IS PREDOMINANTLY KINGSTOWN SANDY CLAY LOAM, 0-45% SLOPES, WITH SOME URBAN LAND.
7. THE SITE IS LOCATED IN THE CAMERON RUN (CENTER) WATERSHED PER CITY OF ALEXANDRIA GIS.
8. CONSTRUCTION PERMITS ARE REQUIRED FOR THE PROJECT. THE APPROVED SITE PLAN MUST BE ATTACHED TO THE PERMIT APPLICATION THAT FULLY DETAILS THE CONSTRUCTION AS WELL AS LAYOUTS AND SCHEMATICS OF THE MECHANICAL, ELECTRICAL, AND PLUMBING SYSTEMS.
9. ALL PUBLIC AND PRIVATE EASEMENTS OR ALL KNOWN PUBLIC AND PRIVATE EASEMENTS, INCLUDING ALL UTILITY, EGRESS, AND CONSERVATION RESTRICTIONS ARE SHOWN. THE APPLICANT SHALL NOT CONSTRUCT ANY PERMANENT STRUCTURES OVER ANY EXISTING OR PROPOSED PUBLIC AND/OR PRIVATE EASEMENTS UNLESS OTHER WISE APPROVED BY THE PLANNING COMMISSION AND CITY OF ALEXANDRIA COUNCIL.
10. PLAT SUBJECT TO RESTRICTIONS OF RECORD.

1. ALL NEW CONSTRUCTION SHALL CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF ALEXANDRIA AND THE VIRGINIA UNIFORM STATEWIDE BUILDING CODE (USBC).
12. PRIOR TO COMMENCING NEW WORK, THE CONTRACTOR SHALL PROTECT FROM DAMAGE ALL EXISTING ADJACENT AREAS, IF ANY: EXISTING PUBLIC INFRASTRUCTURE, INCLUDING BUT NOT LIMITED TO STREETS, ALLEYSWAYS, DRIVEWAYS, APRONS, SANITARY AND STORMWATER MAINS, STREET LIGHTING, TRAFFIC AND PEDESTRIAN SIGNALS, SIDEWALKS, CURB AND GUTTER, AND STORM WATER POND INLET STRUCTURES ARE DAMAGED BY THE CONTRACTOR OR BY ACTIVITIES RELATING TO THE SITE CONSTRUCTION THEN THE APPLICANT SHALL REPAIR THE SAME TO THE SATISFACTION OF DIRECTOR, TRANSPORTATION AND ENVIRONMENTAL SERVICES (T&E). A PRE-CONSTRUCTION WALK/SURVEY OF THE SITE SHALL OCCUR WITH CONSTRUCTION AND INSPECTION STAFF TO DOCUMENT EXISTING CONDITIONS PRIOR TO ANY LAND DISTURBING ACTIVITY.
13. ALL IMPROVEMENTS TO THE CITY'S RIGHT-OF-WAY SUCH AS CURB, GUTTER, SIDEWALK, AND DRIVEWAY APRONS, ETC., ARE DESIGNED IN ACCORDANCE WITH THE LATEST CITY OF ALEXANDRIA STANDARDS AND SPECIFICATIONS.
14. ALL STREET CUT AND PATCH WORK LOCATED IN PUBLIC RIGHT-OF-WAYS, REQUIRED FOR ANY UTILITY INSTALLATION SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE LATEST CITY OF ALEXANDRIA STANDARDS AND SPECIFICATIONS AND TO THE SATISFACTION OF THE DIRECTOR OF TRANSPORTATION AND ENVIRONMENTAL SERVICES (T&E).
15. CONTRACTOR MUST ENSURE THAT THERE IS NO DISTURBANCE ON ADJACENT PROPERTIES WITHOUT RECORDED EASEMENT OR NOTARIZED LETTER OF PERMISSION FROM THE ADJACENT PROPERTY OWNERS.
16. ALL REQUIRED STATE AND FEDERAL PERMITS, WHICH COULD INCLUDE PERMITS FROM THE VIRGINIA DEPARTMENT OF CONSERVATION AND RECREATION (VDNR), VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY (VDEQ), VIRGINIA DEPARTMENT OF HISTORIC RESOURCES (VDHR) UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (USEPA), ARMY CORPS OF ENGINEERS AND VIRGINIA MARINE RESOURCES COMMISSION, MUST BE IN PLACE FOR ALL PROJECT CONSTRUCTION AND MITIGATION WORK PRIOR TO RELEASE OF THE GRADING PLAN. THIS INCLUDES THE STATE REQUIREMENT FOR A VIRGINIA STORMWATER MANAGEMENT PLAN (VSMMP) GENERAL PERMIT FOR DISCHARGE OF STORMWATER FROM CONSTRUCTION ACTIVITIES FOR LAND DISTURBING ACTIVITIES GREATER THAN 2,500. INFORMATION REGARDING THE VSMMP GENERAL PERMIT CAN BE FOUND ONLINE AT: <https://www.deq.virginia.gov/permits/water/stormwater-construction>
17. PERMITS FROM THE CITY OF ALEXANDRIA OFFICE OF ENVIRONMENTAL QUALITY (OEQ), TRANSPORTATION AND ENVIRONMENTAL SERVICES (T&E), AND ENGINEERING AN FIRE DEPARTMENT SHALL BE OBTAINED BY THE APPLICANT, AS REQUIRED AND DOCUMENTED HEREIN. THE CONTRACTOR CAN CONTACT ALEXANDRIA FIRE AND CODE ADMINISTRATION DEPARTMENT AT (703) 838-4644 OR (703) 746-4200 FOR ANY QUESTIONS OR ADDITIONAL INFORMATION.
18. ANY WORK IN THE PUBLIC RIGHT OF WAY SHALL REQUIRE A SEPARATE PERMIT FROM THE DIRECTOR, TRANSPORTATION AND ENVIRONMENTAL SERVICES (T&E). THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THE TRANSPORTATION AND ENVIRONMENTAL SERVICES AT (703) 746-4035 FOR ANY QUESTIONS OR ADDITIONAL INFORMATION.
19. THE CONTRACTOR MUST ENSURE THAT POSITIVE DRAINAGE OCCURS ON SITE TO PREVENT PONDING OR DRAINAGE PROBLEMS RESULTING FROM THIS PROJECT ON ADJACENT PROPERTIES.
20. A SEPARATE DESIGN IS REQUIRED FOR ALL WALLS 24" AND OVER IN HEIGHT FROM THE GRADE AND SUBJECT TO SEPARATE PERMITS TO BE OBTAINED BY THE OWNERS. GEOTECHNICAL AND STRUCTURAL DESIGN IS TO BE COMPLETED BY OTHERS. THIS PLAN SHOWS LOCATION, PROPOSED GRADING, AND BASIS OF DESIGN OF RETAINING WALLS.
21. ALL SANITARY LATERALS AND/OR SEWERS NOT SHOWN IN THE EASEMENTS SHALL BE OWNED AND MAINTAINED PRIVATELY.
22. ALL STORM DRAINS NOT SHOWN WITHIN AN EASEMENT OR IN A PUBLIC RIGHT OF WAY SHALL BE OWNED AND MAINTAINED PRIVATELY.
23. ALL WATER FACILITY CONSTRUCTION SHALL CONFORM TO VIRGINIA AMERICAN WATER COMPANY STANDARDS AND SPECIFICATIONS. CONTRACTOR SHALL CONTACT VIRGINIA AMERICAN WATER COMPANY AT (703) 549-7080 TO COORDINATE CONSTRUCTION AND INSPECTION OF WATER FACILITIES.
24. THE SIDEWALKS SHALL BE CLOSED PER SHEET C-112 DURING CONSTRUCTION OR PEDESTRIAN ACCESS SHALL BE MAINTAINED TO THE SATISFACTION OF THE DIRECTOR OF TRANSPORTATION AND ENVIRONMENTAL SERVICES THROUGHOUT THE CONSTRUCTION OF THE PROJECT.

ALL EMERGENCY VEHICLE EASEMENTS ARE SHOWN ON THE PLAN AND SHALL BE RECORDED WITH ALEXANDRIA LAND RECORDS.

1. AN EROSION AND SEDIMENT CONTROL PLAN MUST BE APPROVED BY THE DIRECTOR OF TRANSPORTATION AND ENVIRONMENTAL SERVICES PRIOR TO ANY LAND DISTURBING ACTIVITY GREATER THAN 2,500 SQUARE FEET.

2. ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE CITY OF ALEXANDRIA; THE VIRGINIA STORMWATER MANAGEMENT HANDBOOK, VERSION 1.1; AND THE VIRGINIA EROSION AND SEDIMENT CONTROL REGULATIONS (VIRGINIA ADMINISTRATIVE CODE 9VAC25-875).

SHEET NO: C-005 6 OF 94

COMPUTATION OF PEAK RUNOFF RATE

THE PRE AND POST DEVELOPMENT PEAK RATES OF RUNOFF ARE COMPUTED BY THE SCS METHOD USING THE NOAA ATLAS 14 24-HOUR PRECIPITATION FREQUENCY FOR ALEXANDRIA, VA. THE EXISTING DETENTION POND HAS BEEN MODELED IN HYDROCAD TO COMPARE STORM ROUTINGS IN THE PRE- AND POST-DEVELOPMENT CONDITIONS. ALL HYDROLOGIC ANALYSES RELATED TO PRE AND POST DEVELOPMENT ARE BASED ON THE EXISTING WATERSHED CHARACTERISTICS AND THE ULTIMATE DEVELOPMENT OF THE SUBJECT PROJECT, RESPECTIVELY.

STORMWATER MANAGEMENT PLAN

THE PLAN DEMONSTRATES THAT THE SITE HAS BEEN DEVELOPED TO INCREASE THE POST-DEVELOPMENT PEAK RUNOFF RATE FROM THE PRE-DEVELOPMENT PEAK RUNOFF RATE FOR A ONE-YEAR AND A TEN-YEAR STORM CONSIDERED INDIVIDUALLY. THEREFORE, STORMWATER DETENTION IS PROVIDED PER THE REQUIREMENTS OF ARTICLE 13-109(F)(1)(c) AND 13-109(F)(2)(a)(i) OF ALEXANDRIA ZONING ORDINANCE NOT TO RELEASE STORMWATER FROM THE SITE AT A HIGHER RATE THAN PRE-DEVELOPMENT CONDITION.

ADEQUATE OUTFALL ANALYSIS

REFER TO SHEET C-705 FOR ADEQUATE OUTFALL ANALYSIS.

THIS PROJECT IS AN AREA THAT EXPERIENCES FLOODING AND THE EXISTING CITY CONVEYANCE SYSTEM IS NOT ADEQUATE. THIS HAS BEEN DOCUMENTED TO THE CITY IN THE REPORT TITLED "DASH FLOODING ANALYSIS OF ALTERNATIVES ALEXANDRIA, VA", PREPARED BY MICHAEL BAKER INTERNATIONAL, DATED 12/04/2019.

STORMWATER BMP AND DETENTION FACILITIES MAINTENANCE AGREEMENT

THE ON-SITE STORMWATER MANAGEMENT BMP'S SHALL BE MAINTAINED BY CITY OF ALEXANDRIA.

ENVIRONMENTAL SITE ASSESSMENT

- THERE ARE NO FLOODPLAIN, RESOURCE PROTECTION AREAS, TIDAL WETLANDS, TIDAL SHORES, CONNECTED TIDAL WETLANDS, ISOLATED WETLANDS, OR HIGHLY ERODIBLE/PERMEABLE SOILS ASSOCIATED WITH SHORES OR WETLANDS LOCATED ON THE SITE. THERE ARE NO WETLAND PERMITS REQUIRED FOR THIS DEVELOPMENT PROJECT. ADDITIONALLY, THERE ARE NO KNOWN UNDERGROUND STORAGE TANKS ON THE SITE.
- THE CITY OF ALEXANDRIA DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES, OFFICE OF ENVIRONMENTAL QUALITY MUST BE NOTIFIED IF UNUSUAL OR UNANTICIPATED CONTAMINATION OR UNDERGROUND STORAGE TANKS, DRUMS, AND CONTAINERS ARE ENCOUNTERED AT THE SITE. IF THERE IS ANY DOUBT ABOUT PUBLIC SAFETY OR A RELEASE TO THE ENVIRONMENT, THE ALEXANDRIA FIRE DEPARTMENT MUST BE CONTACTED IMMEDIATELY BY CALLING 911. THE TANK OR CONTAINERS REMOVAL, ITS CONTENTS, ANY SOIL CONTAMINATION AND RELEASES TO THE ENVIRONMENT WILL BE HANDLED IN ACCORDANCE WITH FEDERAL, STATE, AND CITY REGULATIONS.
- ALL WELLS TO BE DEMOLISHED IN THIS PROJECT, INCLUDING MONITORING WELLS MUST BE CLOSED IN ACCORDANCE WITH VIRGINIA STATE WATER CONTROL BOARD (VSWCB) REQUIREMENTS. CONTACT ENVIRONMENTAL HEALTH SPECIALIST AND COORDINATE WITH THE ALEXANDRIA HEALTH DEPARTMENT AT 703-838-4400 EXT 287/295.
- ALL CONSTRUCTION ACTIVITIES MUST COMPLY WITH THE ALEXANDRIA NOISE CONTROL CODE TITLE 11, CHAPTER 5, AND DIVISION 01 SPECIFICATION REQUIREMENTS WHICH PERMITS CONSTRUCTION ACTIVITIES TO OCCUR BETWEEN THE FOLLOWING HOURS:
  - MONDAY THROUGH FRIDAY FROM 7 AM TO 5 PM AND
  - SATURDAY AND SUNDAY WORK MAY BE EXECUTED AT ALL HOURS WITH 5 DAYS PRIOR NOTICE AND APPROVAL OF THE OWNER.
- A SITE CHARACTERIZATION REPORT, REMEDIAL ACTION PLAN, RISK ASSESSMENT, AND HEALTH & SAFETY PLAN WILL BE PROVIDED WITH FINAL SITE PLAN. IF NEEDED, A SOIL MANAGEMENT PLAN WILL ALSO BE PROVIDED WITH FINAL SITE PLAN.

STORMWATER BEST MANAGEMENT PRACTICES (BMP) NOTES

THE STORMWATER BEST MANAGEMENT PRACTICES (BMP) REQUIRED FOR THIS PROJECT SHALL BE CONSTRUCTED AND INSTALLED UNDER THE DIRECT SUPERVISION OF A THIRD-PARTY PROFESSIONAL ENGINEER OR THEIR DESIGNATED REPRESENTATIVE. THE DESIGN ENGINEER SHALL REVIEW INSPECTION REPORTS AND MAKE A WRITTEN CERTIFICATION TO THE CITY THAT THE BMP'S ARE CONSTRUCTED AND INSTALLED AS DESIGNED AND IN ACCORDANCE WITH THE APPROVED SITE PLAN.

UTILITY WORKS

UNDERGROUND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING MINIMUM STANDARDS DESCRIBED IN SECTION 9VAC25-875 OF THE VIRGINIA EROSION AND SEDIMENT CONTROL REGULATION AND ADDITIONAL APPLICABLE PRACTICES FOLLOWED BY THE CITY OF ALEXANDRIA:

A. ALL PRIVATE UTILITIES SHALL BE LOCATED OUTSIDE OF THE PUBLIC RIGHT-OF-WAY AND PUBLIC UTILITY EASEMENTS UNLESS THE UTILITY OWNERS HAVE FRANCHISE AGREEMENT WITH THE CITY OF ALEXANDRIA; HOWEVER, NO ELECTRIC TRANSFORMERS AND SWITCH GEARS 1 CONTROL BOXES SHALL BE PLACED IN THE PUBLIC RIGHT OF WAY.

B. ALL THE EXISTING AND PROPOSED PUBLIC AND PRIVATE UTILITIES AND EASEMENTS SHALL BE SHOWN AND A DESCRIPTIVE NARRATION OF VARIOUS UTILITIES SHALL BE PROVIDED ON THE PLAN.

C. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN UTILITY SERVICES AT ALL TIMES DURING CONNECTION AND/OR CONSTRUCTION.

D. NO MORE THAN 500 LINEAR FEET OF TRENCH MAY BE OPENED AT ONE TIME.

E. EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES.

C. EFFLUENT FROM DEWATERING OPERATIONS SHALL BE FILTERED OR PASSED THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE, OR BOTH, AND DISCHARGED IN A MANNER THAT DOES NOT ADVERSELY AFFECT FLOWING STREAMS OR OFF-SITE PROPERTY.

D. MATERIAL USED FOR BACKFILLING TRENCHES SHALL BE PROPERLY COMPACTED IN ACCORDANCE WITH THE CITY OF ALEXANDRIA STANDARDS AND SPECIFICATIONS TO MINIMIZE EROSION AND PROMOTE STABILIZATION.

E. SHOULD UTILITY CONSTRUCTION BE PERFORMED AFTER COMPLETING EARTHWORK, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACHIEVING 98 PERCENT OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY (ASTM D- 1551) COMPACTION IN ALL TRENCH BACKFILL.

F. RESTABILIZATION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE VIRGINIA REGULATIONS 9VAC25-875 EROSION AND SEDIMENT CONTROL REGULATIONS, AND THE VIRGINIA STORMWATER MANAGEMENT HANDBOOK, VERSION 1.1.

G. APPLICABLE SAFETY REGULATIONS SHALL BE COMPLIED WITH.

H. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL CONTROL MEASURES AS NECESSARY TO PREVENT EROSION AND SEDIMENTATION, AS DETERMINED BY THE DIRECTOR OF TRANSPORTATION AND ENVIRONMENTAL SERVICES, CITY OF ALEXANDRIA.

I. A REMEDIATION PLAN SHALL BE SUBMITTED DETAILING HOW CONTAMINATED SOILS AND/OR GROUNDWATER WILL BE DEALT WITH, INCLUDING PLANS TO REMEDIATE UTILITY CORRIDORS.

J. UTILITY CORRIDORS IN CONTAMINATED SOIL SHALL BE OVER EXCAVATED BY 2 FEET AND BACKFILLED WITH "CLEAN" SOIL.

K. GRADING CAN BE PERFORMED ON INSTALLATION OF UTILITIES.

L. ALL UTILITIES SUCH AS ELECTRICAL LINES, GAS PIPES, COMMUNICATION CABLES, INCLUDING WATER AND SEWER LATERALS ON PUBLIC AND PRIVATE PROPERTY IN THE CITY OF ALEXANDRIA SHALL BE PROVIDED WITH MINIMUM 3" WIDE 5 MIL OVERALL THICKNESS DETECTABLE UNDERGROUND WARNING TAPE (DUWT). THE DUWT SHALL BE INSTALLED AT DEPTHS OF 12" TO 18" FOR DUWT WIDTHS OF 3" AND 24" FOR WIDTHS OF 6" SO AS TO MAKE UNDERGROUND INSTALLATIONS EASY TO FIND USING A NON-FERROUS LOCATOR. THE DUWT SHALL BE WITH ALUMINUM BACKING OR SOLID ALUMINUM CORE LAMINATED WITH A PROTECTIVE CLEAR FILM ON BOTH SIDES. SEALING AND PROTECTING THE GRAPHICS FROM UNDERGROUND MOISTURE, ACIDS, ALKALIS, AND OTHER SOIL SUBSTANCES. ALL DUWT TAPES SHALL BE PRINTED IN BLACK INK ON AMERICAN PUBLIC WORKS ASSOCIATION (APWA) APPROVED COLORS TO MEET OR EXCEED INDUSTRY STANDARDS.

| COLOR  | CODES                                                                       |
|--------|-----------------------------------------------------------------------------|
| RED    | CAUTION BURIED ELECTRIC POWER LINES, CABLES, CONDUITS, AND LIGHTNING CABLES |
| YELLOW | CAUTION GAS, OIL, STEAM, PETROLEUM, OR GASEOUS MATERIALS                    |
| ORANGE | CAUTION COMMUNICATIONS, ALARM OR SIGNAL LINES, CABLES, OR CONDUITS          |
| BLUE   | CAUTION POTABLE WATER                                                       |
| PURPLE | CAUTION RECLAIMED WATER, IRRIGATION AND SLURRY LINES                        |
| GREEN  | CAUTION SEWER, DRAIN LINES, AND FORCE MAIN                                  |

SOLID WASTE MANAGEMENT

- IN COMPLIANCE WITH TITLE 5: TRANSPORTATION AND ENVIRONMENTAL SERVICES, SECTION 5-1-31 OF THE CITY CHARTER AND CODE, THE CITY OF ALEXANDRIA WILL PROVIDE SOLID WASTE COLLECTION SERVICES TO EVERY USER PROPERTY, DEFINED IN SECTION 5-1-2 (12B) AS CONTAINING FOUR OR FEWER DWELLING UNITS EXCLUDING CONDOMINIUM DWELLINGS.

SOLID WASTE AND RECYCLABLE MATERIALS STORAGE IS ALREADY PROVIDED IN THE PARCEL. NO ADDITIONAL SOLID WASTE OR RECYCLABLE MATERIALS STORAGE ARE REQUIRED FOR THIS PROJECT.

MOSQUITO CONTROL NOTES

- STORM WATER MANAGEMENT (SWM) AND BEST MANAGEMENT PRACTICE (BMP) SYSTEMS THAT HOLD WATER FOR MORE THEN 5 DAYS BETWEEN THE MONTHS OF MAY - OCTOBER HAVE THE POTENTIAL TO CAUSE MOSQUITO BREEDING HABITATS. THEREFORE, SUCH BMP'S SHALL BE TREATED WITH A REGISTERED MOSQUITO LARVAL CONTROL PRODUCT. ALL LABELS SHOULD BE FOLLOWED FOR APPLICATION RATES AND AMOUNTS.
- SINCE EXCESSIVE VEGETATION IN EXISTING BMP'S ALSO INCREASES THE POTENTIAL FOR MOSQUITO PROBLEMS; THEREFORE, VEGETATION SHALL BE CONTROLLED AND CUT TO REDUCE MOSQUITO BREEDING.
- CONTACT THE CITY OF ALEXANDRIA ENVIRONMENTAL HEALTH VECTOR BORNE ILLNESS PROGRAM (703-838-4400 EXT. 326, 327) FOR QUESTIONS OR TREATMENT ASSISTANCE.

LANDSCAPE NOTES

- ALL PROTECTION AND PRESERVATION MEASURES FOR EXISTING VEGETATION, INCLUDING MAINTENANCE AND PENALTIES SHALL BE PREPARED IN COMPLIANCE WITH LANDSCAPE GUIDELINES OF THE CITY OF ALEXANDRIA AND APPROVED BY THE CITY ARBORIST IN-FIELD PRIOR TO COMMENCEMENT OF ANY SITE DISTURBING AND CONSTRUCTION ACTIVITIES.
- ALL VEGETATION PRESERVATION AND PROTECTION METHODS SHALL BE APPROVED / VERIFIED IN FIELD BY THE CITY ARBORIST PRIOR TO COMMENCEMENT OF ANY GROUND DISTURBING ACTIVITY.
- LOCATION AND METHOD FOR PROTECTION AND PRESERVATION OF EXISTING TREES WILL BE SHOWN ON TREE PRESERVATION, DEMOLITION, SEDIMENT AND EROSION CONTROL, AND LANDSCAPE PLAN SHEETS.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAKE SURE THAT ANY EXISTING LANDSCAPING WHICH IS TO BE RELOCATED ON THE SITE WILL BE CAREFULLY STORED IN A DESIGNATED AREA BEFORE BEING REPLANTED. COORDINATION WITH THE OWNER FOR MUTUALLY AGREEABLE STORAGE LOCATIONS FOR LANDSCAPE MATERIAL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHOULD BE RESPONSIBLE FOR THE REPLACEMENT OF PLANT MATERIAL THAT DOES NOT SURVIVE STORAGE AND REPLANTING.
- APPLICANT MUST INCLUDE ON THE PLAN DOCUMENTATION OF COMMUNICATION WITH THE ADJACENT PROPERTY OWNER(S) VERIFYING NOTIFICATION OF AND AGREEMENT WITH CONSTRUCTION IMPACT, POTENTIAL FOR LOSS, AND AGREED UPON REMEDIAL MEASURES PERTAINING TO THE EXISTING TREE(S) ON ADJACENT PROPERTIES THAT WILL BE AFFECTED BY PROJECT WORK.
- INCLUDE SPECIFIC CONSTRUCTION STAGING INFORMATION ON THE PLAN THAT INDICATES THE METHODS, AND PROCEDURES TO BE IMPLEMENTED FOR PROTECTION OF EXISTING ON-SITE AND OFF-SITE VEGETATION.
- PROPOSED PLANTING SHALL BE PROVIDED IN COMPLIANCE WITH THE LANDSCAPE GUIDELINES OF THE CITY OF ALEXANDRIA.
- SPECIFICATION FOR ALL PLANTINGS SHALL BE IN ACCORDANCE WITH THE CURRENT AND MOST UP-TO-DATE EDITION OF ANSI-z60.1, THE AMERICAN STANDARD FOR NURSERY STOCK AS PRODUCED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, WASHINGTON, DC
- THE APPLICANT SHALL MAKE SUITABLE ARRANGEMENTS FOR PRE-SELECTION TAGGING, PRE-CONTRACT GROWING, OR IS UNDERTAKING SPECIALIZED PLANTING STOCK DEVELOPMENT WITH A NURSERY OR GROWER THAT IS CONVENIENTLY LOCATED TO THE PROJECT SITE, OR UTILIZING OTHER PROCEDURES THAT WILL ENSURE AVAILABILITY OF SPECIFIED MATERIALS. IN THE EVENT THAT SHORTAGES AND/OR INABILITY TO OBTAIN SPECIFIED PLANTINGS OCCURS, REMEDIAL EFFORTS INCLUDING SPECIES CHANGES, ADDITIONAL PLANTINGS AND MODIFICATION TO THE LANDSCAPE PLAN SHALL BE UNDERTAKEN BY THE APPLICANT. ALL REMEDIAL EFFORTS SHALL, WITH PRIOR APPROVAL BY THE CITY, BE PERFORMED TO THE SATISFACTION OF THE DIRECTORS OF PLANNING & ZONING, RECREATION, PARKS & CULTURAL ACTIVITIES AND TRANSPORTATION & ENVIRONMENTAL SERVICES.
- IN LIEU OF MORE STRENUOUS SPECIFICATIONS, ALL LANDSCAPE RELATED WORK SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE CURRENT AND MOST UP-TO-DATE EDITION (AT TIME OF CONSTRUCTION) OF LANDSCAPE SPECIFICATION GUIDELINES AS PRODUCED BY THE LANDSCAPE CONTRACTORS ASSOCIATION OF MARYLAND, DISTRICT OF COLUMBIA AND VIRGINIA.

- PRIOR TO COMMENCEMENT OF LANDSCAPE INSTALLATION/PLANTING OPERATIONS, A PRE-INSTALLATION/CONSTRUCTION MEETING WILL BE SCHEDULED WITH THE CITY'S ARBORIST AND LANDSCAPE ARCHITECTS TO REVIEW THE SCOPE OF INSTALLATION PROCEDURES AND PROCESSES.
- MAINTENANCE FOR THE PROJECT SHALL BE PERFORMED IN PERPETUITY BY THE APPLICANT/OWNER/SUCCESSOR, IN COMPLIANCE WITH CITY OF ALEXANDRIA LANDSCAPE GUIDELINES AND/OR AS CONDITIONED BY THE PROJECT APPROVAL.
- AS-BUILT DRAWINGS FOR THIS LANDSCAPE PLAN AND/OR WATER MANAGEMENT SYSTEM WILL BE PROVIDED IN COMPLIANCE WITH THE CITY OF ALEXANDRIA LANDSCAPE GUIDELINES. AS-BUILT DRAWINGS SHALL INCLUDE CLEAR IDENTIFICATION OF ALL VARIATION(S) AND CHANGES FROM APPROVED DRAWINGS INCLUDING LOCATION, QUANTITY AND SPECIFICATION OF ALL PROJECT ELEMENTS.

DESIGN, LANDSCAPE ARCHITECT & DESIGN ENGINEER

**AMT**

A. MARION TANGAS AND ASSOCIATES, INC.

3000 BUSINESS CENTER DRIVE, SUITE 230  
ALEXANDRIA, VIRGINIA 22314  
PHONE: 703.838.7248  
FAX: 703.838.7249  
NAME: CHELSEA M. BISHOP, P.E.  
PROJ. MANAGER: CHELSEA BISHOP, P.E. EMAIL: CBISHOP@AMTINC.COM

DATE: 02/27/2025  
SCALE: N/A  
SHEET: CHL-EC

SEAL: HEALTH OF ALEXANDRIA

CHELSEA M. BISHOP  
REGISTERED PROFESSIONAL ENGINEER  
EXPIRATION DATE: 02/27/2028

REVISION APPROVED BY

| NO. | DESCRIPTION | DATE | APPROVED |
|-----|-------------|------|----------|
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CITY OF ALEXANDRIA  
DASH FACILITY  
3000 BUSINESS CENTER DRIVE  
ALEXANDRIA, VIRGINIA 22314

GENERAL NOTES

SHEET NAME:

APPROVED  
SPECIAL USE PERMIT NO. \_\_\_\_\_  
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE  
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES  
SITE PLAN NO. \_\_\_\_\_

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE

DATE RECORDED \_\_\_\_\_

INSTRUMENT NO. DEED BOOK NO. PAGE NO.

### DEMOLITION NOTES

1. NO DEMOLITION SHALL BEGIN UNTIL ALL EROSION AND SEDIMENT AND TREE PROTECTION CONTROLS ARE IN PLACE AND ARE APPROVED BY AN EROSION AND SEDIMENT CONTROL INSPECTOR OF THE DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES.
2. ALL WORK SHALL BE PERFORMED IN STRICT COMPLIANCE WITH THE MOST CURRENT APPLICABLE FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS, INCLUDING BUT NOT LIMITED TO, ENVIRONMENTAL PROTECTION AGENCY (EPA), OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA), VIRGINIA OCCUPATIONAL AND SAFETY HEALTH COMPLIANCE PROGRAM (VOSH ENFORCEMENT), VIRGINIA OVERHEAD HIGH VOLTAGE LINE SAFETY ACT, NATIONAL EMISSIONS STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAPS), AND NATIONAL INSTITUTE OF OCCUPATIONAL SAFETY AND HEALTH (NIOSH).
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF WORK WITH REPRESENTATIVE UTILITY COMPANIES AND FOR THE IMPLEMENTATION OF REQUIRED UTILITY-RELATED WORK.
4. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER'S REPRESENTATIVE UPON ENCOUNTERING ANY HAZARDOUS MATERIALS DURING DEMOLITION AND/OR CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL DOCUMENT SAME TO THE OWNER'S REPRESENTATIVE AND OBTAIN DIRECTION AS TO THE APPROPRIATE ACTION(S) TO BE TAKEN.
5. DISCONNECTION OF SERVICES AND SYSTEMS SUPPLYING UTILITIES TO BE ABANDONED OR DEMOLISHED SHALL BE COMPLETED PRIOR TO OTHER SITE DEMOLITION IN FULL COMPLIANCE WITH APPLICABLE CODES, REGULATIONS, AND THE REQUIREMENTS OF UTILITY PURVEYORS HAVING JURISDICTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH THE UTILITY PURVEYORS, PAYMENT OF ASSOCIATED FEES AND PROCUREMENT OF ALL NECESSARY PERMITS.
6. PRIOR TO REMOVAL OF MATERIALS OVER EXISTING UTILITY SYSTEMS, THE CONTRACTOR SHALL DOCUMENT EXISTING CONDITIONS AND, IF AT VARIANCE WITH CONDITIONS AS REPRESENTED ON THE PLANS, NOTIFY THE OWNER'S REPRESENTATIVE AND OBTAIN DIRECTIONS AS TO THE APPROPRIATE ACTION(S) TO BE TAKEN.
7. THE CONTRACTOR SHALL BACKFILL EXCAVATED AREAS WITH APPROVED MATERIALS/CLEAN FILL AS PER THE REQUIREMENTS OF VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT).
8. THE CONTRACTOR SHALL PROTECT AND PREVENT DAMAGE TO EXISTING ON-SITE UTILITY DISTRIBUTION FACILITIES THAT ARE TO REMAIN. ACTIVE UTILITY DISTRIBUTION FACILITIES ENCOUNTERED DURING DEMOLITION AND/OR CONSTRUCTION ACTIVITIES SHALL BE SHUT OFF AT THE SERVICE MAIN WITH THE APPROVAL OF THE OWNER'S REPRESENTATIVE.
9. DURING DEMOLITION AND/OR CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER'S REPRESENTATIVE UPON ENCOUNTERING ANY EXISTING UTILITIES AND/OR UTILITY SYSTEM STRUCTURE NOT SHOWN ON THESE PLANS. THE CONTRACTOR SHALL DOCUMENT THE SAME AND FORWARD THE INFORMATION TO THE RESIDENT ENGINEER/OWNER'S REPRESENTATIVE, AND OBTAIN DIRECTION AS TO THE APPROPRIATE ACTION(S) TO BE TAKEN.
10. THE CONTRACTOR OR APPLICANT SHALL WORK WITH THE CITY STAFF TO REUSE THE EXISTING, LEFTOVER, UNUSED, AND/OR DISCARDED BUILDING MATERIALS AS PART OF THE DEMOLITION PROCESS OR THE CONSTRUCTION DEBRIS SHALL BE REMOVED TO AN APPROVED LANDFILL WITH ADEQUATE FREQUENCY IN ACCORDANCE WITH THE VIRGINIA STATE LITTER CONTROL ACT.

### CONSTRUCTION NOTES

1. THE EXISTING UNDERGROUND UTILITIES SHOWN HEREON ARE BASED UPON AVAILABLE INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF ALL UTILITIES BEFORE COMMENCING WORK AND FOR ANY DAMAGES WHICH MAY OCCUR BY HIS FAILURE TO LOCATE OR PRESERVE THESE UNDERGROUND UTILITIES. IF DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR SHOULD ENCOUNTER UTILITIES OTHER THAN THOSE SHOWN ON THE PLANS, HE SHALL IMMEDIATELY NOTIFY THE ENGINEER AND TAKE NECESSARY ACTION AND PROPER STEPS TO PROTECT THE FACILITY AND ASSURE THE CONTINUATION OF SERVICE.
2. THE CONTRACTOR SHALL DIG TEST PITS AS REQUIRED FOLLOWING NOTIFICATION AND MARKING OF ALL EXISTING UTILITIES TO VERIFY THE LOCATION AND DEPTH OF EXISTING UTILITIES. TEST HOLES TO BE PERFORMED AT LEAST 30 DAYS PRIOR TO START OF CONSTRUCTION. ANY DISCREPANCIES MUST BE REPORTED IMMEDIATELY TO THE OWNER AND ENGINEER. REDESIGN AND APPROVAL BY REVIEWING AGENCIES SHALL BE OBTAINED, IF REQUIRED.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE OWNER AND THE ENGINEER OF ANY CHANGES OR CONDITIONS ATTACHED TO PERMITS OBTAINED FROM ANY AUTHORITY ISSUING PERMITS.
4. THE CONTRACTOR SHALL VISIT THE SITE AND SHALL VERIFY EXISTING CONDITIONS PRIOR TO STARTING CONSTRUCTION.
5. THE CONTRACTOR SHALL CLEAR THE SITE OF ALL TREES, BUILDINGS, FOUNDATIONS, ETC., WITHIN THE LIMITS OF CONSTRUCTION UNLESS OTHER WISE SPECIFICALLY AND SEPARATELY RESPONSIBLE FOR ENSURING THAT EXISTING UTILITIES ARE DISCONNECTED.

- THE DEVELOPER SHALL PROVIDE OVER-TOP GRADING TO PROVIDE POSITIVE DRAINAGE AND PRECLUDE PONDING OF WATER.
7. ALL AREAS, ON OR OFF-SITE, WHICH ARE DISTURBED BY THIS CONSTRUCTION, WHICH ARE NOT PAVED OR BUILT UPON, SHALL BE ADEQUATELY STABILIZED TO CONTROL EROSION AND SEDIMENTATION. THE MINIMUM ACCEPTED STABILIZATION SHALL CONSIST OF PERMANENT GRASS SEED MIXTURE TO BE AS RECOMMENDED BY THE CITY AGENT. ALL SLOPES 3:1 AND GREATER SHALL BE SODDED AND PEGGED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE CITY OF ALEXANDRIA.
8. ALL ABOVE GROUND UTILITIES SERVING THE SITE SHALL BE RELOCATED AS REQUIRED BY THE OWNING UTILITY COMPANIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING ALL ARRANGEMENTS AND COORDINATING ALL WORK REQUIRED FOR THE NECESSARY RELOCATIONS.
9. PRIOR TO BEGINNING OF CONSTRUCTION, CONTRACTOR SHALL VERIFY FROM THE DRAWINGS ALL DIMENSIONS, DETAILS, AND TREATMENTS FOR THE PROPOSED FOUNDATIONS, CURBS, WALKWAYS, AND OTHER PROPOSED CONSTRUCTION WHERE INDICATED ON THE PLANS.
10. EXISTING BUILDINGS, FENCES AND OTHER EXISTING PHYSICAL FEATURES ARE TO BE REMOVED AS REQUIRED BY THE CONSTRUCTION.
11. EXISTING CONSTRUCTION SHALL BE REMOVED TO NEAREST JOINT. NEW CONSTRUCTION SHALL BE PROVIDED AS SHOWN AND ANY DAMAGED AREA SHALL BE REPAIRED TO MATCH CONDITIONS EXISTING PRIOR TO CONSTRUCTION OR TO THE SATISFACTION OF DIRECTOR, TRANSPORTATION AND ENVIRONMENTAL SERVICES.
12. TOPS OF EXISTING STRUCTURES WHICH REMAIN IN USE ARE TO BE RELOCATED IN ACCORDANCE WITH THE GRADING PLAN. ALL PROPOSED STRUCTURE TOP ELEVATIONS ARE TO BE VERIFIED BY THE CONTRACTOR WITH THE SITE GRADING PLANS. IN CASE OF CONFLICT, THE GRADING PLAN SHALL SUPERSEDE PROFILE ELEVATIONS. MINOR ADJUSTMENTS TO THE EXISTING ELEVATIONS MAY BE MADE, BUT MUST BE MADE IN THE FIELD WITH THE APPROVAL OF SITE INSPECTOR OF THE DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES.
13. THE DESIGN, CONSTRUCTION, FIELD PRACTICES, AND METHODS SHALL CONFORM TO THE REQUIREMENTS SET FORTH BY THE CITY OF ALEXANDRIA ZONING ORDINANCE AND DESIGN AND CONSTRUCTION STANDARDS MANUAL. FAILURE TO COMPLY WITH THE CODE, APPLICABLE MANUALS, AND PROVISIONS OF THE CONSTRUCTION AND ESCROW AGREEMENTS OR THE PERMITS SHALL BE DEEMED A VIOLATION.
14. THE APPROVAL OF THESE PLANS SHALL IN NO WAY RELIEVE THE OWNER/DEVELOPER OR HIS AGENT OF ANY LEGAL RESPONSIBILITIES WHICH MAY BE REQUIRED BY THE CITY OF VIRGINIA OR ANY ORDINANCE ENACTED BY THE CITY OF ALEXANDRIA.
15. CONSTRUCTION TAKEOUT SHALL BE UNDER THE DIRECT SUPERVISION OF A LICENSED LAND SURVEYOR IN THE COMMONWEALTH OF VIRGINIA.
16. SMOOTH GRADE SHALL BE MAINTAINED FROM THE CENTERLINE OF THE EXISTING ROAD TO THE PROPOSED ENTRENCH AND/OR CURB & GUTTER TO PREVENT THE FORMATION OF FALSE GUTTER AND/OR PONDING OF WATER ON THE ROADWAY.

17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING A SMOOTH TRANSITION TO EXISTING CURB AND SIDEWALKS, IF APPLICABLE.
18. THE CALIFORNIA BEARING RATIO (CBR) VALUES OF IN-SITU MATERIALS SHALL BE DETERMINED BY THE OWNER LABORATORY. THE TESTOR SHALL DETERMINE REQUIRED THICKNESSES OF SURFACE, BASE, SUB-BASE, AND SUB GRADE MATERIALS PRIOR TO SUBMISSION OF THE FINAL SITE PLAN. THE PAVEMENT SECTION SHALL BE DESIGNED BY A GEOTECHNICAL LICENSED PROFESSIONAL ENGINEER TO THE SATISFACTION OF DIRECTOR, TRANSPORTATION AND ENVIRONMENTAL SERVICES FOR ALL PAVEMENTS INCLUDING EMERGENCY VEHICLE EASEMENT (EVE) TO SUPPORT H-20 LOADING. IN THE CASE OF PAVEMENT PATCHES, PAVEMENT SECTION MUST MEET OR EXCEED EXISTING SECTION.
19. THE THICKNESSES OF SUB-BASE, BASE, AND WEARING COURSE SHALL BE DESIGNED USING "CALIFORNIA METHOD" AS SET FORTH ON PAGE 3-76 OF THE SECOND EDITION OF A BOOK ENTITLED, "DATA BOOK FOR CIVIL ENGINEERS" COLLECTED BY THE REGISTERED PROFESSIONAL ENGINEER, AN ALTERNATE PAVEMENT SECTION DESIGNED TO THE SATISFACTION OF DIRECTOR, TRANSPORTATION AND ENVIRONMENTAL SERVICES FOR ALL PAVEMENTS INCLUDING EMERGENCY VEHICLE EASEMENT (EVE) TO SUPPORT H-20 LOADING BASED ON CBR AND VIRGINIA DESIGN METHOD (TRANSPORTATION (VDOT) METHOD) (VASWANU METHOD) AND STANDARD MATERIAL SPECIFICATIONS SHALL BE ACCEPTABLE.
20. EMERGENCY VEHICLE EASEMENTS (EVE) AND AMERICAN WITH DISABILITY (ADA) ACCESSIBLE PARKING SPACES MUST BE DELINEATED WITH PAVEMENT MARKING PER THE CALIFORNIA STANDARD SIGNAGE AND AMERICANS WITH DISABILITIES (ADA) REQUIREMENTS.
21. ALL STRIPING SHALL MEET THE REQUIREMENTS OF MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) STANDARDS (LATEST EDITION) AND SHALL BE THERMOPLASTIC UNLESS OTHERWISE SPECIFIED.
22. ALL EARTHWORK OPERATIONS ARE TO BE PERFORMED UNDER THE FULL TIME, ON-SITE SUPERVISION OF A REGISTERED GEOTECHNICAL ENGINEER WITH GEOTECHNICAL TESTING IN ACCORDANCE WITH CONSTRUCTION SPECIFICATIONS AND GEOTECHNICAL REPORT REQUIREMENTS.

23. THE CONTRACTORS SHALL NOT CAUSE OR PERMIT VEHICLES TO IDLE FOR MORE THAN 10 MINUTES WHEN PARKED.
24. UNLESS OTHERWISE APPROVED THE CONTRACTOR SHALL PROVIDE TEMPORARILY LADDER STYLE - STANDARD PEDESTRIAN CROSS WALKS AT ALL CROSSINGS OF THE PROPOSED DEVELOPMENT, WHICH MUST BE DESIGNED TO THE SATISFACTION OF THE DIRECTOR, TRANSPORTATION AND ENVIRONMENTAL SERVICES. THE DESIGN OF LADDER STYLE OR STANDARD PEDESTRIAN CROSS WALK SHALL BE EVALUATED ON A CASE BY CASE BASIS AND SHALL COMPLY WITH THE REQUIREMENTS OF POLICY MANUAL SECTION 30.18, PEDESTRIAN CROSSWALKS, JULY 2011. A COPY OF THE POLICY MANUAL CAN BE OBTAINED FROM YON LAMBERT, BICYCLE AND PEDESTRIAN COORDINATOR / TRANSPORTATION PLANNER, TELEPHONE (703) 746-4081.

## ARCHAEOLOGY NOTES

1. THIS PROPERTY IS SITUATED ON A LOW TERRACE NEAR A TRIBUTARY STREAM OF CAMERON RIVER. PREHISTORIC SITES HAVE BEEN DISCOVERED IN THIS TYPE OF SETTING, AND A NATIVE AMERICAN CAMP WAS FOUND ON THIS TERRACE TO THE EAST OF THE DEVELOPMENT AREA. PREVIOUS ARCHAEOLOGICAL TESTING ON PARTS OF THE PROJECT AREA HAS INDICATED THAT THERE HAS BEEN PREVIOUS GRADING ACROSS SOME OF THE SITE, BUT IN ONE AREA, THE ARCHAEOLOGISTS DISCOVERED THE PRESENCE OF A BURIED SURFACE. THE WESTERN PORTION OF THE PROJECT AREA HAS NEVER BEEN TESTED, AND A BURIED SURFACE COULD ALSO BE PRESENT IN THIS SECTION. IT IS POSSIBLE THAT THE BURIED SURFACE COULD CONTAIN REMNANTS OF PREHISTORIC OCCUPATION. IN ADDITION, THERE IS A POSSIBILITY THAT THE SURFACE COULD CONTAIN EVIDENCE OF CIVIL WAR ENCAMPMENTS.
2. CALL ALEXANDRIA ARCHAEOLOGY (703-746-4399) TWO (2) WEEKS BEFORE THE STARTING DATE OF ANY GROUND DISTURBANCE SO THAT CITY ARCHAEOLOGISTS CAN ARRANGE FOR A TIME TO INSPECT THE PROPERTY.
3. CALL ALEXANDRIA ARCHAEOLOGY IMMEDIATELY (703-746-4399) IF ANY BURIED STRUCTURAL REMAINS (WALL FOUNDATIONS, WELLS, PRIVIES, CISTERNS, ETC.) OR CONCENTRATIONS OF ARTIFACTS (PREHISTORIC STONE TOOLS, OR CIVIL WAR ARTIFACTS) ARE DISCOVERED DURING ANY EXCAVATION, WORK, OR GRADING. CITY ARCHAEOLOGISTS WILL ADVISE YOU ON WHAT ACTION CITY ARCHAEOLOGIST COMES TO THE SITE AND RECORDS THE FINDS.
4. THE APPLICANT SHALL NOT ALLOW ANY METAL DETECTION AND/OR ARTIFACT COLLECTION TO BE CONDUCTED ON THE PROPERTY WITHOUT AUTHORIZED BY ALEXANDRIA ARCHAEOLOGY. FAILURE TO COMPLY SHALL RESULT IN PROJECT DELAYS.
5. ALL REQUIRED ARCHAEOLOGICAL PRESERVATION MEASURES SHALL BE COMPLETED IN COMPLIANCE WITH SECTION 11-411 OF THE ZONING ORDINANCE.

**CEMETERY AND/OR BURIAL GROUNDS**

THERE IS NO OBSERVABLE, HISTORICAL, OR ARCHAEOLOGICAL EVIDENCE OF CEMETERIES OR BURIAL GROUNDS ON THIS PROPERTY.

**FIRE / WATER NOTES**

1. EXISTING FIRE HYDRANTS SHALL REMAIN IN SERVICE AND UNOBSTRUCTED DURING CONSTRUCTION.
2. EMERGENCY VEHICLE EASEMENTS (EVE) SHALL REMAIN OPEN DURING CONSTRUCTION.

**UTILITY OWNER INFORMATION**

SANITARY SEWER:  
CITY OF ALEXANDRIA  
DEPARTMENT OF TRANSPORTATION  
& ENVIRONMENTAL SERVICES  
301 KING STREET, ROOM 4100  
ALEXANDRIA, VA 22314  
PH. 703-838-4966

**STORM DRAIN:**  
CITY OF ALEXANDRIA  
DEPARTMENT OF TRANSPORTATION  
& ENVIRONMENTAL SERVICES  
301 KING STREET, ROOM 4100  
ALEXANDRIA, VA 22314  
PH. 703-838-4966

WATER:  
VIRGINIA AMERICAN WATER  
2223 DUKE STREET  
ALEXANDRIA, VA 22314  
PH. 703-706-3877

**ELECTRIC SERVICE:**  
DOMINION ENERGY VIRGINIA  
907 WEST GLEBE ROAD  
ALEXANDRIA, VA 22305  
PH. 703-838-2229

GAS SERVICE:  
WASHINGTON GAS LIGHT COMPANY  
6801 INDUSTRIAL ROAD  
SPRINGFIELD, VA 22151  
PH. 703-750-1400

|                                              |                                                                                                                                                                                                                                                                                                   |                  |                 |
|----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|-----------------|
| DESIGN LANDSCAPE ARCHITECT & DESIGN ENGINEER | <br><b>A. MORTON TOWNSEND &amp; ASSOCIATES, INC.</b><br>CONSULTING ENGINEERS<br>305 LEXINGTON AVENUE, 22ND FLOOR<br>NEW YORK, NY 10017<br>PHONE: 212.691.1200<br>FAX: 212.691.1200<br>EMAIL: AMT@AMTDESIGN.COM | DATE: 05/23/2025 | ISSUED FOR: EAC |
|                                              |                                                                                                                                                                                                                                                                                                   | SCALE: N/A       |                 |

[illegible]

CITY OF ALEXANDRIA  
DASH FACILITY  
3000 BUSINESS CENTER DRIVE  
ALEXANDRIA, VIRGINIA 22314

## GENERAL NOTES

SHEET NAME:

|                                                       |               |          |
|-------------------------------------------------------|---------------|----------|
| APPROVED                                              |               |          |
| SPECIAL USE PERMIT NO. _____                          |               |          |
| DEPARTMENT OF PLANNING & ZONING                       |               |          |
| DIRECTOR                                              |               | DATE     |
| DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES |               |          |
| SITE PLAN NO. _____                                   |               |          |
| DIRECTOR                                              |               | DATE     |
|                                                       |               |          |
| CHAIRMAN, PLANNING COMMISSION                         |               | DATE     |
| DATE RECORDED _____                                   |               |          |
| INSTRUMENT NO.                                        | DEED BOOK NO. | PAGE NO. |



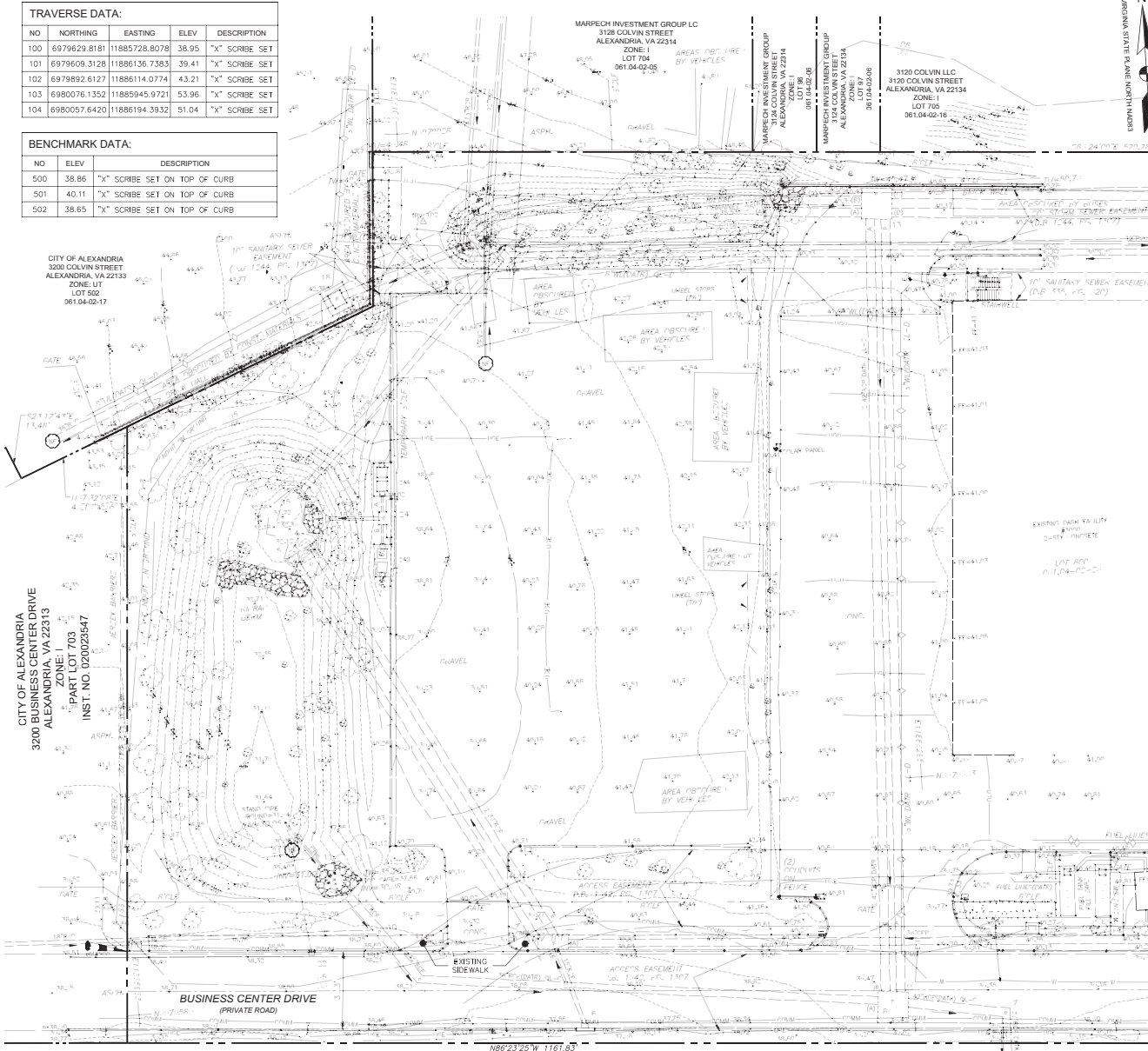
| NO  | ELEV  | DESCRIPTION                   |
|-----|-------|-------------------------------|
| 500 | 38.86 | "X" SCRIBE SET ON TOP OF CURB |
| 501 | 40.11 | "X" SCRIBE SET ON TOP OF CURB |
| 502 | 38.65 | "X" SCRIBE SET ON TOP OF CURB |

CITY OF ALEXANDRIA  
3200 COLVIN STREET  
ALEXANDRIA, VA 22133  
ZONE: UT  
LOT 502  
061.04-02-17

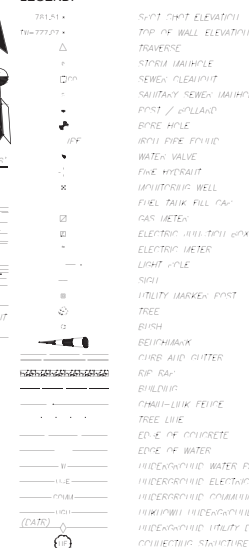
CITY OF ALEXANDRIA  
BUSINESS CENTER DRIVE  
ALEXANDRIA, VA 22313

LOT 703  
ZONE I  
PART NO. 020023547

3000 COLVIN STREET  
ALEXANDRIA, VA 22313  
ZONE I-IT  
LOT 502  
981 04-02-17



LEGEND:



NOTES:

1. HORIZONTAL DATA: HAWAII STATE PLAIN 170m (14092011)
2. VERTICAL DATA: IAU84 RR
3. THIS DOPPLER SPECTRA SURVEY WAS COMPLETED UNDER THE DIRECT AND RESPONSIBLE CHARGE OF CHARLES J. HUNTLEY, JR. FROM A 100' ALUMINUM CONCRETE SURVEY MOUNTED TELESCOPE. THE DATA FROM THIS SURVEY WAS OBTAINED IN JANUARY 2024 AND THAT THIS SURVEY IS NOT INTENDED TO BE USED FOR ANY OTHER PURPOSES UNLESS OTHERWISE NOTED.
4. POWERED HYPERNOVAE SPECTRA FROM FEELS OF REFNOV AND BEST FIT TO FEELS POWER EVIDENCE AND DOES NOT REPRESENT A BINARY SURVEY.
5. THE REPORT HAS BEEN FINISHED. THIS SURVEY MAY NOT SHOW ALL COORDINATES, INDEPENDENT, BASED ON DEVIATION OF REFNOV WHICH MAY EXIST IN THE CHAIN OF THE.
6. REFNOV INTERVAL IS ONE (1) FOOT.
7. POWER: CITY OF ALABAMA, RESOURCES: COORDINATE

STORM SEWER DATA:

- |    |                                                                                      |    |                                                                                                                 |    |                                                                         |
|----|--------------------------------------------------------------------------------------|----|-----------------------------------------------------------------------------------------------------------------|----|-------------------------------------------------------------------------|
| 1  | GRATE INLET<br>TOP=76.18<br>HW (H)=74.03                                             | 11 | WISER STRUCTURE<br>TOP=76.37<br>TOP (H)=59.20<br>HW (H)=70.78<br>HW (H)=65.00                                   | 18 | VAULT INLET<br>TOP=76.00<br>HW (H)=76.07<br>HW (H)=71.08                |
| 2  | MANHOLE<br>TOP=49.74<br>HW (H)=51.77<br>HW (H)=53.77<br>HW (H)=51.77<br>HW (H)=51.77 | 12 | CHUB INLET<br>TOP=58.83<br>HW (H)=53.72<br>HW (H)=54.00<br>HW (H)=49.00<br>REFLECTED, INVALE<br>TO C-8041 INLET | 19 | GRATE INLET<br>TOP=59.71<br>HW (H)=59.02<br>HW (H)=57.72                |
| 3  | MANHOLE<br>TOP=50.41<br>PIPER ACCESSIBLE<br>INVALE TO C-8041<br>INLET                | 13 | TOP=44.47<br>HW (H)=20.71<br>HW (H)=20.00<br>HW (H)=20.71<br>HW (H)=20.71                                       | 20 | CHUB INLET<br>TOP=44.47<br>HW (H)=44.93<br>HW (H)=44.00<br>HW (H)=44.77 |
| 4  | FLAMED EJECT STRUCTURE<br>HW (H)=70.00<br>HW (H)=70.00                               | 14 | GRATE INLET<br>TOP=57.00<br>TOP (H)=70.00<br>FULL OF DEBRIS                                                     | 21 | CHUB INLET<br>TOP=57.00<br>REFLECTED, INVALE<br>TO C-8041 INLET         |
| 5  | FLAMED EJECT STRUCTURE<br>HW (H)=70.00                                               | 15 | GRATE INLET<br>TOP=57.00<br>TOP (H)=70.00<br>FULL OF DEBRIS                                                     | 22 | CHUB INLET<br>TOP=57.00<br>REFLECTED, INVALE<br>TO C-8041 INLET         |
| 6  | GRATE INLET<br>TOP=57.00<br>TOP (H)=70.00<br>FULL OF DEBRIS                          | 16 | FLAMED EJECT STRUCTURE<br>HW (H)=70.00<br>HW (H)=70.00                                                          | 23 | FLAMED EJECT STRUCTURE<br>HW (H)=70.00<br>HW (H)=70.00                  |
| 7  | MANHOLE<br>TOP=51.77<br>INVALE TO C-PEE1                                             | 17 | GRATE INLET<br>TOP=57.00<br>TOP (H)=70.00<br>FULL OF DEBRIS                                                     | 24 | CHUB INLET<br>TOP=57.00<br>HW (H)=76.04<br>HW (H)=76.01                 |
| 8  | MANHOLE<br>TOP=51.77<br>INVALE TO C-PEE1                                             | 18 | GRATE INLET<br>TOP=57.00<br>TOP (H)=70.00<br>FULL OF DEBRIS                                                     | 25 | CHUB INLET PLANTIN<br>TOP=50.00<br>PIPER ACCESSIBLE<br>PIPER            |
| 9  | MANHOLE<br>TOP=51.77<br>INVALE TO C-PEE1                                             | 19 | GRATE INLET<br>TOP=57.00<br>TOP (H)=70.00<br>FULL OF DEBRIS                                                     | 26 | CHUB INLET PLANTIN<br>TOP=50.00<br>PIPER ACCESSIBLE<br>PIPER            |
| 10 | MANHOLE<br>TOP=51.77<br>INVALE TO C-PEE1                                             | 20 | GRATE INLET<br>TOP=57.00<br>TOP (H)=70.00<br>FULL OF DEBRIS                                                     | 27 | PIPE EJECT STRUCTURE<br>HW (H)=76.00                                    |

SANITARY SEWER DATA:

- [illegible]

DESIGN LANDSCAPE ARCHITECT &amp; DESIGN ENGINEER



CITY OF ALEXANDRIA  
DASH FACILITY  
3000 BUSINESS CENTER DRIVE  
ALEXANDRIA, VIRGINIA 22314

|                                                       |               |          |
|-------------------------------------------------------|---------------|----------|
| APPROVED                                              |               |          |
| SPECIAL USE PERMIT NO. _____                          |               |          |
| DEPARTMENT OF PLANNING & ZONING                       |               |          |
| DIRECTOR                                              |               | DATE     |
| DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES |               |          |
| SITE PLAN NO. _____                                   |               |          |
| DIRECTOR                                              |               | DATE     |
| CHAIRMAN, PLANNING COMMISSION                         |               |          |
| DATE RECORDED _____                                   |               | DATE     |
| INSTRUMENT NO.                                        | DEED BOOK NO. | PAGE NO. |

EXPIREMENT PRELIMINARY PLAN SUBMISSION - NOT FOR CONSTRUCTION

VICTIMS' CONDITIONS OF LIFE

SHEET

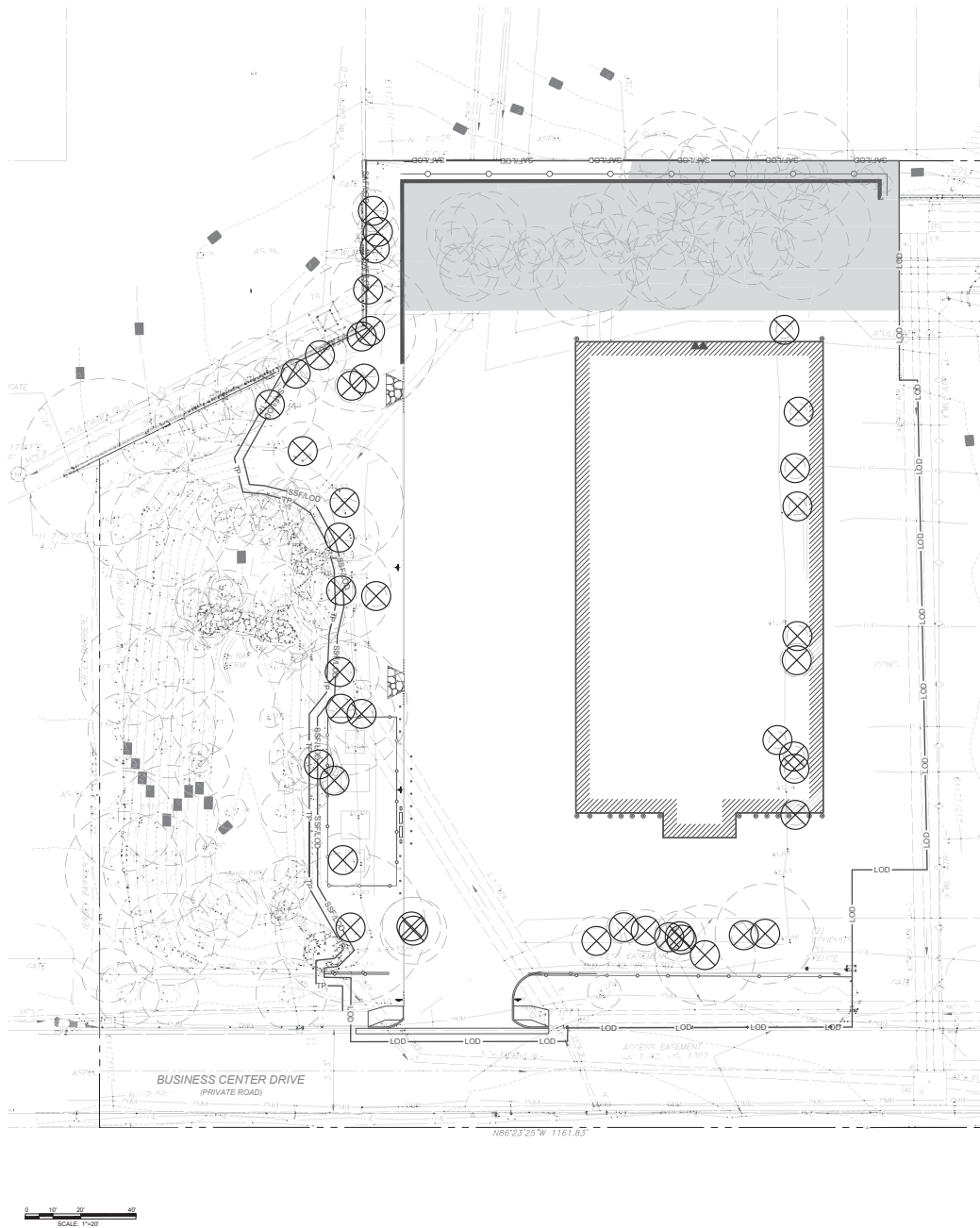




## TREE PROTECTION NOTES

THE CONTRACTOR MUST ADHERE TO THE FOLLOWING TREE PROTECTION CONDITIONS FOR TREES THAT WILL BE PRESERVED INCLUDING PRIVATELY MANAGED TREES AND PUBLIC SPACE TREES.

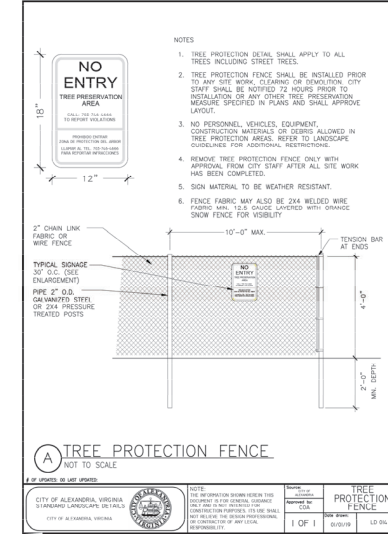
- ALL PROTECTION MEASURES AND EXCAVATION OPERATIONS SHALL COMPLY WITH CITY OF ALEXANDRIA REGULATIONS.
- PRESERVED TREES CANNOT BE DAMAGED OR REMOVED.
- CONTRACTOR SHALL PROVIDE TREE PRESERVATION MEASURES IN CONJUNCTION WITH A CONSTRUCTION PHASE ARBORIST. CONTRACTOR SHALL COORDINATE TREE PRESERVATION PLAN MEASURES WITH THE CITY OF ALEXANDRIA PRIOR TO THE START OF CONSTRUCTION. INSTALLATION OF TREE PROTECTION MEASURES, OR DEMOLITION.
- A PRE-CONSTRUCTION MEETING WITH THE SUPERINTENDENT AND CREW, INCLUDING ISA-CERTIFIED CONSTRUCTION PHASE ARBORIST, SUBCONTRACTORS, AND CITY OF ALEXANDRIA SHALL BE PROVIDED PRIOR TO THE START OF CONSTRUCTION. INSTALLATION OF TREE PROTECTION MEASURES, OR DEMOLITION.
- TREES WITHIN OR DIRECTLY ADJACENT TO THE LIMITS OF WORK MUST BE PROTECTED WITH 6 FT. TALL CHAIN LINK FENCE, WITH TREE SIGNAGE PER CITY GUIDELINES, ALONG THE LOD ADJACENT TO TREATED AREA.
- NONE OF THE FOLLOWING SHALL OCCUR WITHIN THE TREE PROTECTION AREA OR WITHIN THE CRITICAL ROOT ZONE OF A PROTECTED TREE: ALTERATION OR DISTURBANCE TO EXISTING GRADE, STAGING/STORAGE OF CONSTRUCTION MATERIALS, EQUIPMENT, SOIL, OR DEBRIS; DISPOSAL OF ANY LIQUIDS E.G. CONCRETE, GAS, OIL, PAINT, AND BLACKTOP, AND TRENCHING.
- NO HEAVY EQUIPMENT SHALL BE USED TO EXCAVATE WITHIN THE CRITICAL ROOT ZONE OF A PROTECTED TREE BEYOND THE LOD.
- NO ROOTS GREATER THAN TWO (2) INCHES IN DIAMETER, OF A PROTECTED TREE, SHALL BE CUT WITHOUT AN ARBORIST'S REVIEW AND RECOMMENDATION. IF ROOTS 2" OR LARGER ARE DISCOVERED TO BE IN CONFLICT WITH THE IMPROVEMENTS, THE CONTRACTOR SHALL CONTACT THE CONSTRUCTION PHASE ARBORIST FOR DIRECTION. EXPOSED ROOTS 2 INCHES AND LARGER IN DIAMETER SHALL BE WRAPPED IN BURLAP OR OTHER APPROVED MATERIAL AND KEPT MOIST AT ALL TIMES.
- IF FOR ANY REASON THE SCOPE OF THE PROJECT REQUIRES WORK TO BE PERFORMED WITHIN THE FENCED PROTECTION ZONE, THE PERMIT HOLDER MUST RECEIVE CLEARANCE FROM CITY OF ALEXANDRIA TO CONTINUE THE CONFLICTING WORK.
- IF A TREE REQUIRES REMOVAL, APPLICANT MUST APPLY FOR THE PROPER PERMIT FOR ITS REMOVAL AND COMPENSATE AS PER CURRENT LAWS/REGULATIONS.
- CRITICAL ROOT ZONE (CRZ) = 1.5 FOOT RADIUS FROM THE BASE OF THE TREE'S TRUNK FOR EACH 1 INCH OF THE TREE'S DIAMETER. STRUCTURAL ROOT ZONE (SRZ) = 0.5 FOOT RADIUS FROM THE BASE OF THE TREE'S TRUNK FOR EACH 1 INCH OF THE TREE'S DIAMETER. MEASUREMENTS ARE TAKEN AT 4.5 FEET ABOVE GRADE (ALSO REFERRED TO AS THE DIAMETER AT BREAST HEIGHT).
- PROTECT CRITICAL ROOT ZONES AS SHOWN ON THE TREE PRESERVATION PLANS AND AS DIRECTED BY AN ISA-CERTIFIED CONSTRUCTION PHASE ARBORIST OF ALL TREES TO REMAIN, ADJACENT TO THE PROPOSED WORK.
- PROVIDE OVERSIGHT/MONITORING BY AN ISA-CERTIFIED CONSTRUCTION PHASE ARBORIST FOR ANY WORK WITHIN A PROTECTED TREE'S CRITICAL ROOT ZONE.
- INCORPORATE ADDITIONAL TREE PROTECTION MEASURES AND ISA BEST MANAGEMENT PRACTICES IF RECOMMENDED BY THE CONSTRUCTION PHASE ARBORIST. ADDITIONAL TREE PROTECTION MEASURES MAY INCLUDE, BUT NOT BE LIMITED TO: METHODS/ACTIVITIES PRE-, DURING AND POST CONSTRUCTION, IN COORDINATION WITH THE CONSTRUCTION PHASE ARBORIST:
  - TREE ASSESSMENTS
  - ROOT PRUNING
  - TREE / BRANCH PRUNING
  - INSTALLATION OF ALTERNATIVE MATERIALS SUCH AS FLEX-PAVE, POROUS PAVE
  - ALTERNATIVE CONSTRUCTION TECHNIQUES SUCH AS HYDROEXCAVATION, BRIDGING, GRADE BEAMS
  - INSTALLATION, MONITORING AND REMOVAL OF TREE PROTECTION MEASURES
  - CONSTRUCTION MONITORING
  - DISEASE/INSECT CONTROL
  - DAMAGE MITIGATION
  - CONSTRUCTION INSPECTION CHECKLIST
  - AFTER CARE PLAN AND COMMITMENT, MINIMUM 1 YEAR
- PROVIDE AGREEMENTS BETWEEN OWNER AND ISA-CA TO PROVIDE CONSTRUCTION OVERSIGHT AND POST CARE. PROVIDE 2-YEAR MINIMUM AFTER CARE BY AN ISA-CERTIFIED CONSTRUCTION PHASE ARBORIST.
- SUBMIT REPORTS/PHOTOS AND WEEKLY UPDATES BY THE CONSTRUCTION PHASE ARBORIST BASED ON INITIAL SITE VISITS, SITE VISITS DURING CONSTRUCTION, AND FOLLOW-UP VISIT.
- TREE SIGNAGE SHALL BE INSTALLED ON THE CHAIN LINK OR WELDED WIRE FENCE EVERY 20 FEET AS SHOWN ON THE CITY OF ALEXANDRIA TREE PROTECTION DETAIL. TREE PROTECTION SIGNAGE SHALL BE IN ENGLISH AND SPANISH, CLEARLY STATING NO ENTRY, TREE PRESERVATION AREA. SEE DETAIL.



## TREE PRESERVATION LEGEND

- STANDARD CRITICAL ROOT ZONE  
1" DIAM = 1.5' CRITICAL ROOT ZONE  
(MEASURED FROM FACE OF TREE TRUNK)
- TREE TO BE REMOVED. SEE TREE INVENTORY FOR ADDITIONAL TREE INFORMATION
- LOD - LIMITS OF DISTURBANCE
- TP - TREE PROTECTION FENCE
- SAFLOD - SAFETY FENCE WITH TREE PROTECTION SIGNAGE / LIMITS OF DISTURBANCE
- SSSAFLOD - SUPER SILT FENCE / LIMITS OF DISTURBANCE
- PROPERTY LINE
- TREE REMOVAL AREA - ALL TREES TO BE REMOVED. SEE TREE INVENTORY FOR ADDITIONAL TREE INFORMATION

## TREE PROTECTION FENCE DETAIL



NOTE: PROVIDE SIGNAGE, MINIMUM 30' O.C., WHERE 6' CHAIN-LINK SAFETY FENCE ALONG TREATED AREA IS SHOWN. PROVIDE SUPER SILT FENCE ON 6' HIGH CHAIN LINK FENCE, WITH SIGNAGE 30' O.C., ALONG TREATED AREA WHERE SUPER SILT FENCE IS SHOWN.

## CITY OF ALEXANDRIA STANDARD TREE PRESERVATION NOTES

- VEGETATION DESIGNATED FOR PROTECTION AND/OR PRESERVATION SHALL CONTINUOUSLY RECEIVE AN ENHANCED LEVEL OF MAINTENANCE THROUGHOUT THE ENTIRE CONSTRUCTION PERIOD.
- MAINTENANCE OPERATIONS SHALL AGGRESSIVELY MONITOR THE HEALTH, GROWTH AND VIGOR OF VEGETATION AND PRESCRIBE SELECTIVE PRUNING, REMOVAL OF VOLUNTARY AND/OR INVASIVE SPECIES, WATERING, FERTILIZATION AND INSTALLATION OF MULCH/TOPDRESSING.
  - WHEN PRESERVED VEGETATION IS LOCATED ON CITY PROPERTY, MAINTENANCE SHALL BE PERFORMED TO THE SATISFACTION OF THE CITY.
2. AREAS DESIGNATED FOR PROTECTION AND/OR PRESERVATION OF VEGETATION SHALL NOT BE ENTERED OR UTILIZED (APPROVED MAINTENANCE PROCEDURES AND WATERING EXCEPTED) THROUGHOUT THE ENTIRE CONSTRUCTION PERIOD. PROHIBITED ITEMS/ACTIVITIES INCLUDE, BUT ARE NOT LIMITED TO:
- MODIFYING SITE TOPOGRAPHY IN A MANNER THAT DIRECTLY OR INDIRECTLY ALTERS EXISTING SITE DRAINAGE WITHIN PROTECTION ZONE INCLUDING TRENCHING OR GRADING OPERATIONS AND PLACING, STORING OR STOCKPILING SOIL OR CONSTRUCTION RELATED SUPPLIES.
  - TELLING OR STORING VEGETATION, LIES, INCINERATING MATERIALS WITHIN OR IN CLOSE PROXIMITY.
  - OPERATING MACHINERY OR EQUIPMENT, INCLUDING VEHICLE/EQUIPMENT PARKING OR STORAGE.
  - TEMPORARY OR PERMANENT UTILITY CONSTRUCTION, PAVING OR IMPERVIOUS SURFACE INSTALLATION.
  - DISPOSAL OF DEBRIS OR CHEMICALS. VII. TEMPORARY FACILITIES OR OCCUPATION BY WORK FORCE.
  - STORAGE OF CONSTRUCTION MATERIALS OR WASTE.



TREE ASSESSMENT AND TREE SAVE RECOMMENDATIONS PREPARED UNDER MY SUPERVISION

Mary Lynne Marcinko

MARY LYNNE MARCINKO  
ISA CERTIFIED ARBORIST #MA-5128A



DESIGN LANDSCAPE ARCHITECT & DESIGN ENGINEER



A. Marking Tompkins & Associates, Inc.  
3000 BUSINESS CENTER DRIVE, SUITE 210  
ALEXANDRIA, VA 22304  
PROJ. MANAGER: DELESA BISHOP, P.E. EMAIL: DBISHOP@AMTINC.COM

DATE: 06/22/2025  
SCALE: 1"=30'

| REVISION APPROVED BY |             |      |          |
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CITY OF ALEXANDRIA  
DASH FACILITY  
3000 BUSINESS CENTER DRIVE  
ALEXANDRIA, VIRGINIA 22314

APPROVED SPECIAL USE PERMIT NO. \_\_\_\_\_  
DEPARTMENT OF PLANNING & ZONING

DIRECTOR \_\_\_\_\_ DATE \_\_\_\_\_  
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES  
SITE PLAN NO. \_\_\_\_\_

DIRECTOR \_\_\_\_\_ DATE \_\_\_\_\_

CHAIRMAN, PLANNING COMMISSION \_\_\_\_\_ DATE \_\_\_\_\_

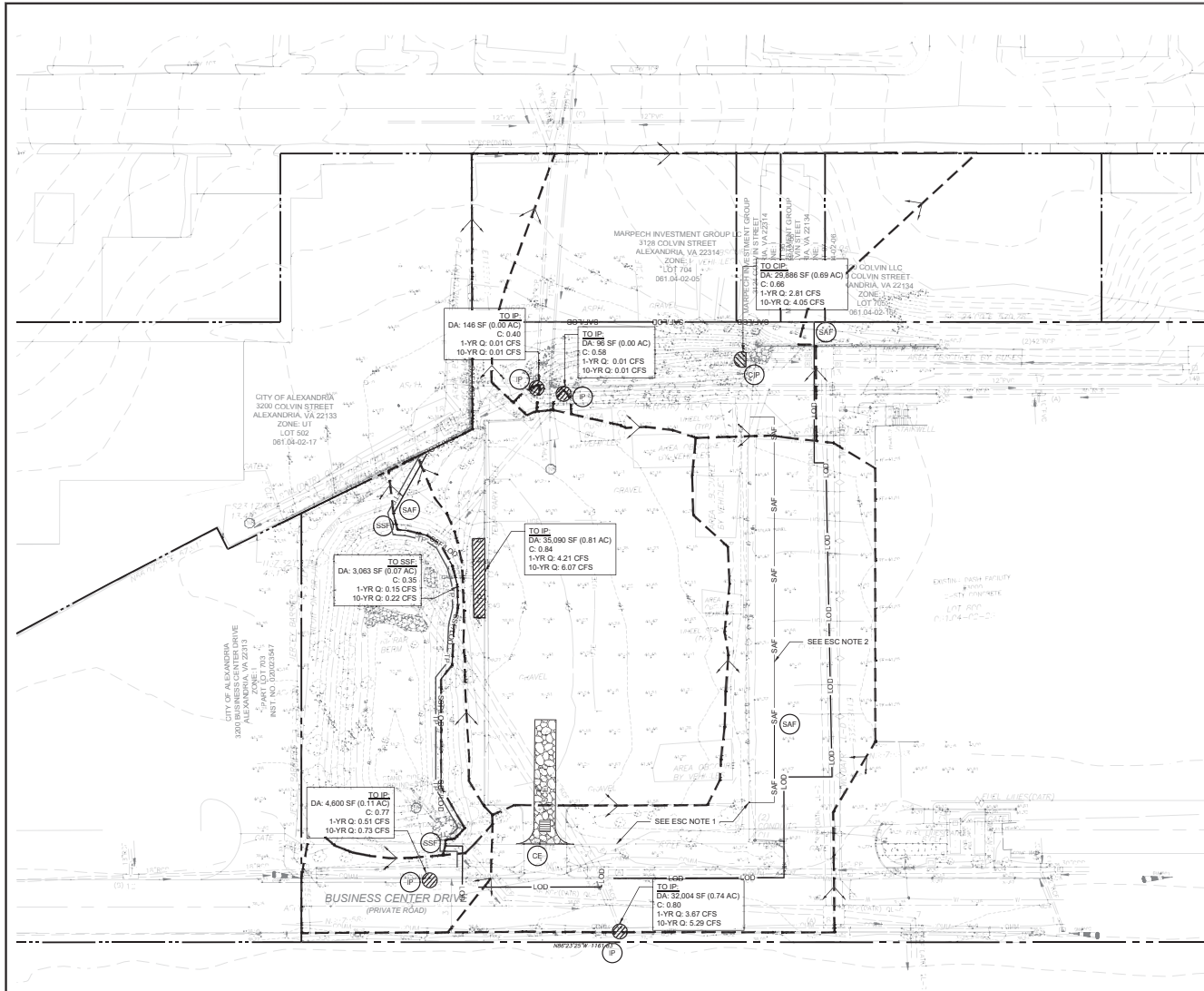
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INSTRUMENT NO. \_\_\_\_\_ DEED BOOK NO. \_\_\_\_\_ PAGE NO. \_\_\_\_\_

DEVELOPMENT PRELIMINARY PLAN SUBMISSION - NOT FOR CONSTRUCTION

SHEET NAME: TREE PRESERVATION PLAN





## EROSION AND SEDIMENT CONTROL LEGEND

| NO.      | KEY | LINE TYPE | DESCRIPTION                                |
|----------|-----|-----------|--------------------------------------------|
| C-PCM-01 | SAF | ---       | SAFETY FENCE                               |
| C-PCM-04 | SSF | ---       | SUPER SILT FENCE                           |
| C-SCM-04 | IP  | ---       | INLET PROTECTION                           |
| C-SCM-05 | CIP | ---       | CULVERT INLET PROTECTION                   |
| C-SCM-03 | CE  | ---       | STONE CONSTRUCTION ENTRANCE WITH WASH RACK |
|          |     | ---       | DRAINAGE DIVIDE                            |

## EROSION AND SEDIMENT CONTROL NOTES

- EXISTING CHAIN LINK FENCE SHALL REMAIN TO SERVE AS SAFETY FENCE.
- THE EXISTING CONCRETE DRIVE AISLE WEST OF THE EXISTING DASH FACILITY IS TO REMAIN IN PLACE AND DRIVEWAY OPERATIONAL DURING CONSTRUCTION. TEMPORARY SAFETY FENCE SHALL BE OFFSET 5 FEET FROM THE PROPOSED BUILDING TO ACCOMMODATE CONSTRUCTION, GRADING, RE-PAVING OPERATIONS, AND ADDITION OF DRAINAGE INLETS IN THE DRIVE AISLE ADJACENT TO THE EXISTING DASH FACILITY SHALL BE PHASED AND COMPLETED IN CLOSE COORDINATION WITH DASH STAFF TO MINIMIZE DISRUPTION TO OPERATIONS.
- TREE PROTECTION FENCE, SUPER SALT FENCE, AND CONSTRUCTION SAFETY FENCE SHALL BE THE SAME WHEREVER THEY OVERLAP, WHICHEVER IS STURDIER WILL TAKE PRECEDENCE. TREE PROTECTION FENCING MUST BE INSTALLED PRIOR TO DEMOLITION OF THE SITE OR STRUCTURES, DELIVERY OF MATERIALS OR STOCKPILING, AND/OR PLACEMENT OF OPERATION OF HEAVY MACHINERY ON THE SITE.

## ARCHAEOLOGY GENERAL NOTES

- THIS PROPERTY IS SITUATED ON A LOW TERRACE NEAR A TRIBUTARY STREAM OF CAMERON RUN. PREHISTORIC SITES HAVE BEEN DISCOVERED IN THIS TYPE OF SETTING, AND A NATIVE AMERICAN CAMP WAS FOUND ON THIS TERRACE TO THE EAST OF THE DEVELOPMENT AREA. PREVIOUS ARCHAEOLOGICAL TESTING ON PARTS OF THE PROJECT AREA HAS INDICATED THAT THERE HAS BEEN PREVIOUS GRADING ACROSS SOME OF THE SITE, BUT IN ONE AREA, THE ARCHAEOLOGISTS DISCOVERED THE PRESENCE OF A BURIED SURFACE, THE WESTERN PORTION OF THE PROJECT AREA HAS NEVER BEEN TESTED, AND A BURIED SURFACE COULD ALSO BE PRESENT IN THIS SECTION. IT IS POSSIBLE THAT THE BURIED SURFACE COULD CONTAIN REMNANTS OF PREHISTORIC OCCUPATION. IN ADDITION, THERE IS A POSSIBILITY THAT THE SURFACE COULD CONTAIN EVIDENCE OF CIVIL WAR ENCAMPMENTS.
- CALL ALEXANDRIA ARCHAEOLOGY (703-746-4399) TWO (2) WEEKS BEFORE THE STARTING DATE OF ANY GROUND DISTURBANCE SO THAT CITY ARCHAEOLOGISTS CAN ARRANGE FOR A TIME TO INSPECT THE PROPERTY.
- CALL ALEXANDRIA ARCHAEOLOGY IMMEDIATELY (703-746-4399) IF ANY BURIED STRUCTURAL REMAINS (WALL FOUNDATIONS, WELLS, PRIVIES, CISTERNS, ETC.) OR CONCENTRATIONS OF ARTIFACTS (PREHISTORIC STONE TOOLS, OR CIVIL WAR ARTIFACTS) ARE DISCOVERED DURING DEVELOPMENT. WORK MUST CEASE IN THE AREA OF THE DISCOVERY UNTIL A CITY ARCHAEOLOGIST COMES TO THE SITE AND RECORDS THE FINDS.
- THE APPLICANT SHALL NOT ALLOW ANY METAL DETECTION AND/OR ARTIFACT COLLECTIONS TO BE CONDUCTED ON THE PROPERTY, UNLESS AUTHORIZED BY ALEXANDRIA ARCHAEOLOGY. FAILURE TO COMPLY SHALL RESULT IN PROJECT DELAYS.



DESIGN LANDSCAPE ARCHITECT & DESIGN ENGINEER

**AMT**

A. MARY T. TAYLOR AND ASSOCIATES, INC.

3000 BUSINESS CENTER DRIVE, SUITE 200  
ALEXANDRIA, VA 22304  
PHONE: (703) 746-4399  
FAX: (703) 746-4398  
WWW.AMT-VA.COM

PROJ. MANAGER: CHELSEA BISHOP, P.E., ENV. ENGINEERING INC.

DATE: 02/22/2025

SHEET: 1 OF 2

| REVISION | APPROVED BY | DATE | DESCRIPTION |
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CITY OF ALEXANDRIA  
DASH FACILITY  
3000 BUSINESS CENTER DRIVE  
ALEXANDRIA, VIRGINIA 22314

APPROVED SPECIAL USE PERMIT NO. \_\_\_\_\_

DEPARTMENT OF PLANNING & ZONING

DIRECTOR \_\_\_\_\_ DATE \_\_\_\_\_

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES

SITE PLAN NO. \_\_\_\_\_

DIRECTOR \_\_\_\_\_ DATE \_\_\_\_\_

CHAIRMAN, PLANNING COMMISSION \_\_\_\_\_ DATE \_\_\_\_\_

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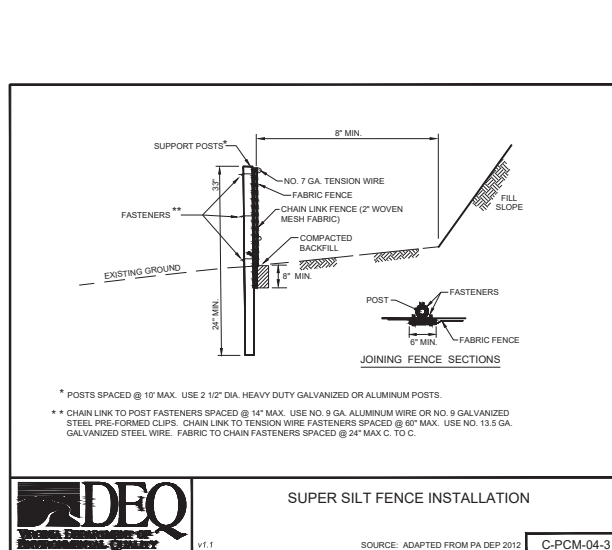
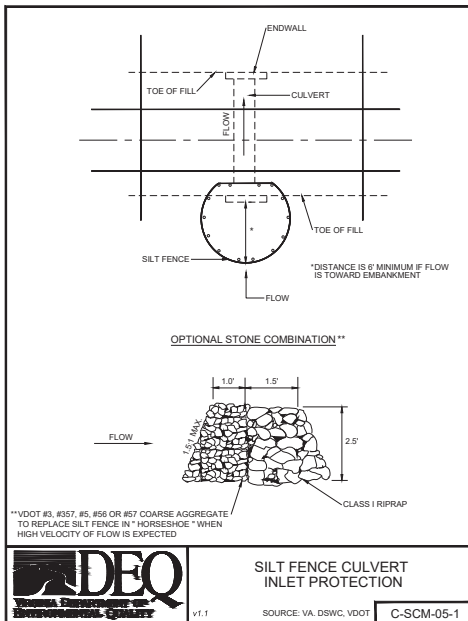
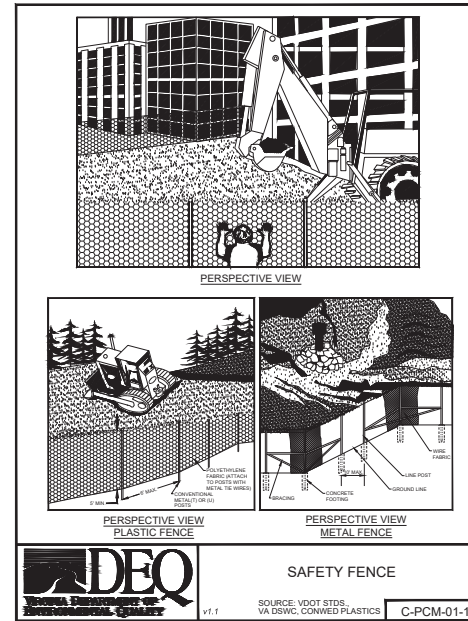
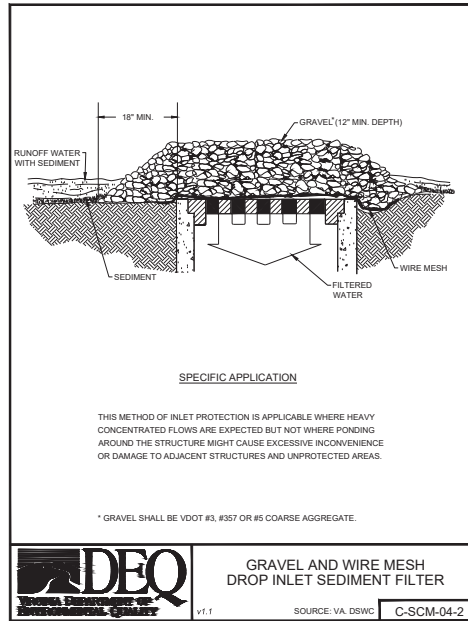
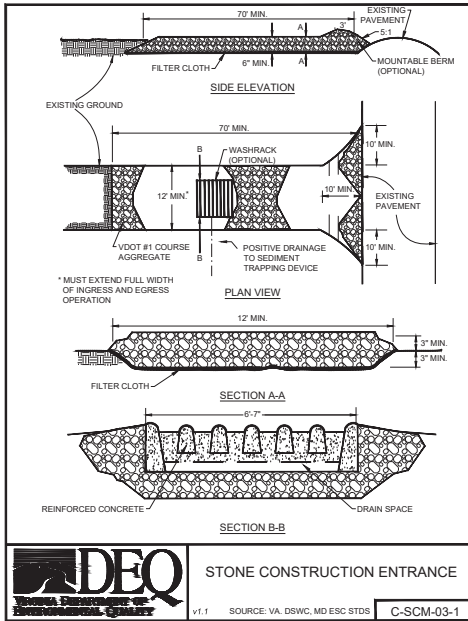


1. THIS PROPERTY IS SITUATED ON A LOW TERRACE NEAR A TRIBUTARY STREAM OF CAMERON RUN. PREHISTORIC SITES HAVE BEEN DISCOVERED IN THIS TYPE OF SETTING, AND A NATIVE AMERICAN CAMP WAS FOUND ON THIS TERRACE TO THE EAST OF THE DEVELOPMENT AREA. PREVIOUS ARCHAEOLOGICAL TESTING IN PART OF THE SURFACE AREA HAS INDICATED THAT THERE HAVE BEEN PREVIOUS GRADING ACROSS SOME OF THE SITE, BUT IN ONE AREA, THE ARCHAEOLOGISTS DISCOVERED THE PRESENCE OF A BURIED SURFACE. THE WESTERN PORTION OF THE PROJECT AREA HAS NEVER BEEN GRADED. IF THE BURIED SURFACE IS ALSO DISCOVERED IN THE REMAINING SECTION, IT IS POSSIBLE THAT THE BURIED SURFACE COULD CONTAIN REMNANTS OF PREHISTORIC OCCUPATION. IN ADDITION, THERE IS A POSSIBILITY THAT THE SURFACE COULD CONTAIN EVIDENCE OF AN ENCEMENT.
2. CALL ALEXANDRIA ARCHAEOLOGY (703-746-4399) TWO (2) WEEKS BEFORE THE STARTING DATE OF ANY GROUND DISTURBANCE SO THAT CITY ARCHAEOLOGISTS CAN BE IN A POSITION FOR A TIME TO INSPECT THE PROPERTY.
3. CALL ALEXANDRIA ARCHAEOLOGY IMMEDIATELY (703-746-4399) IF ANY BURIED STRUCTURAL REMAINS (WALL FOUNDATIONS, WELLS, PIPES, CISTERS, ETC) OR CONCENTRATIONS OF PREHISTORIC SITES (POTTERY, STONE OR OTHER ARTIFACTS) ARE DISCOVERED DURING DEVELOPMENT. WORK MUST CEASE IN THE AREA OF THE DISCOVERY UNTIL A CITY ARCHAEOLOGIST COMES TO THE SITE AND RECORDS THE FINDS.
4. THE APPLICANT SHALL NOT ALLOW ANY METAL DETECTION AND/OR ARTIFACT COLLECTIONS TO BE CONDUCTED ON THE PROPERTY, UNLESS AUTHORIZED BY ALEXANDRIA ARCHAEOLOGY. FAILURE TO COMPLY SHALL RESULT IN THE PROJECT BEING STOPPED.

SHEET NAME:  
EROSION AND SEDIMENT CONTROL PLAN - PHASE II

SHEET NO: C-104 14 OF 94



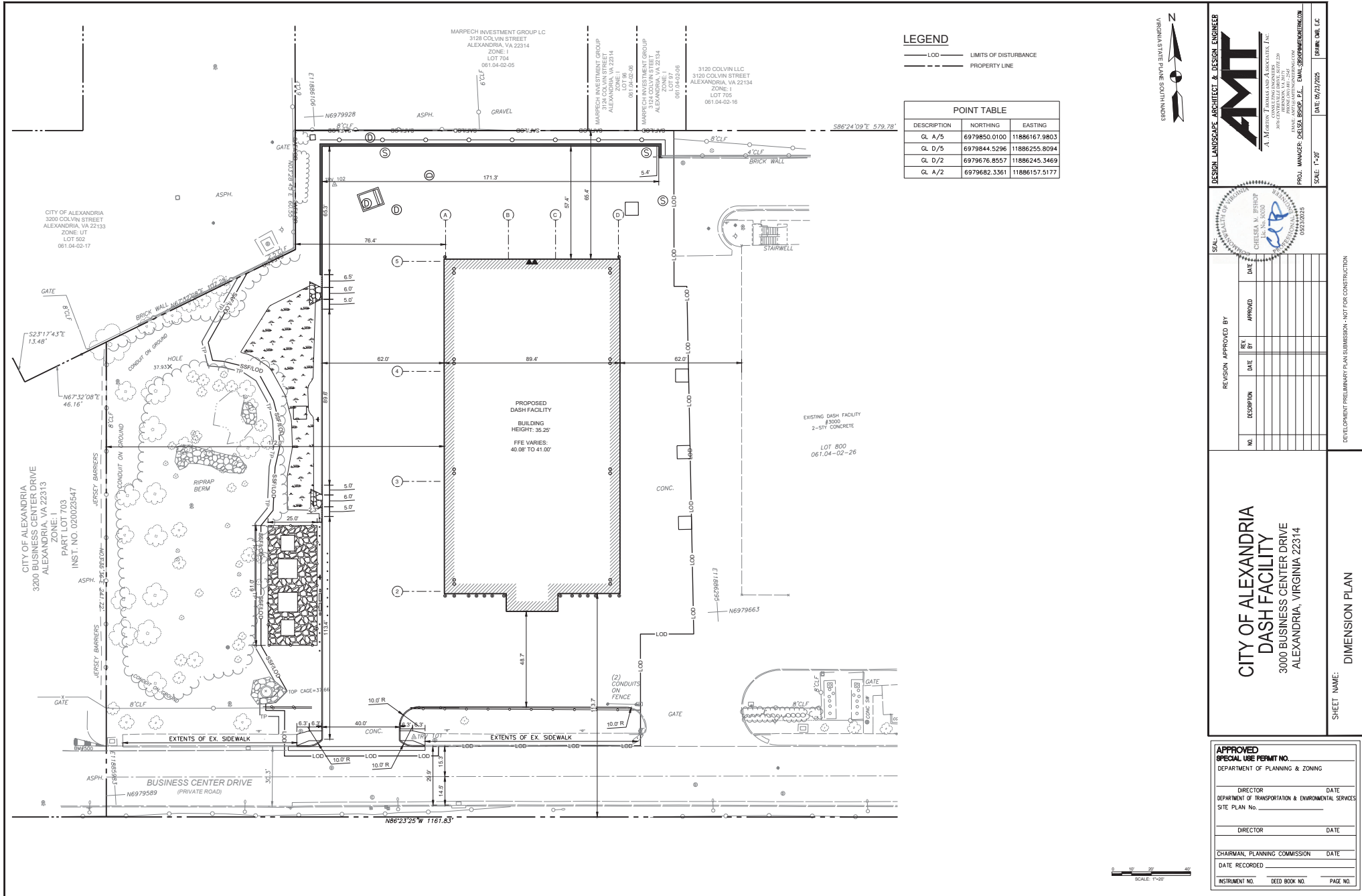


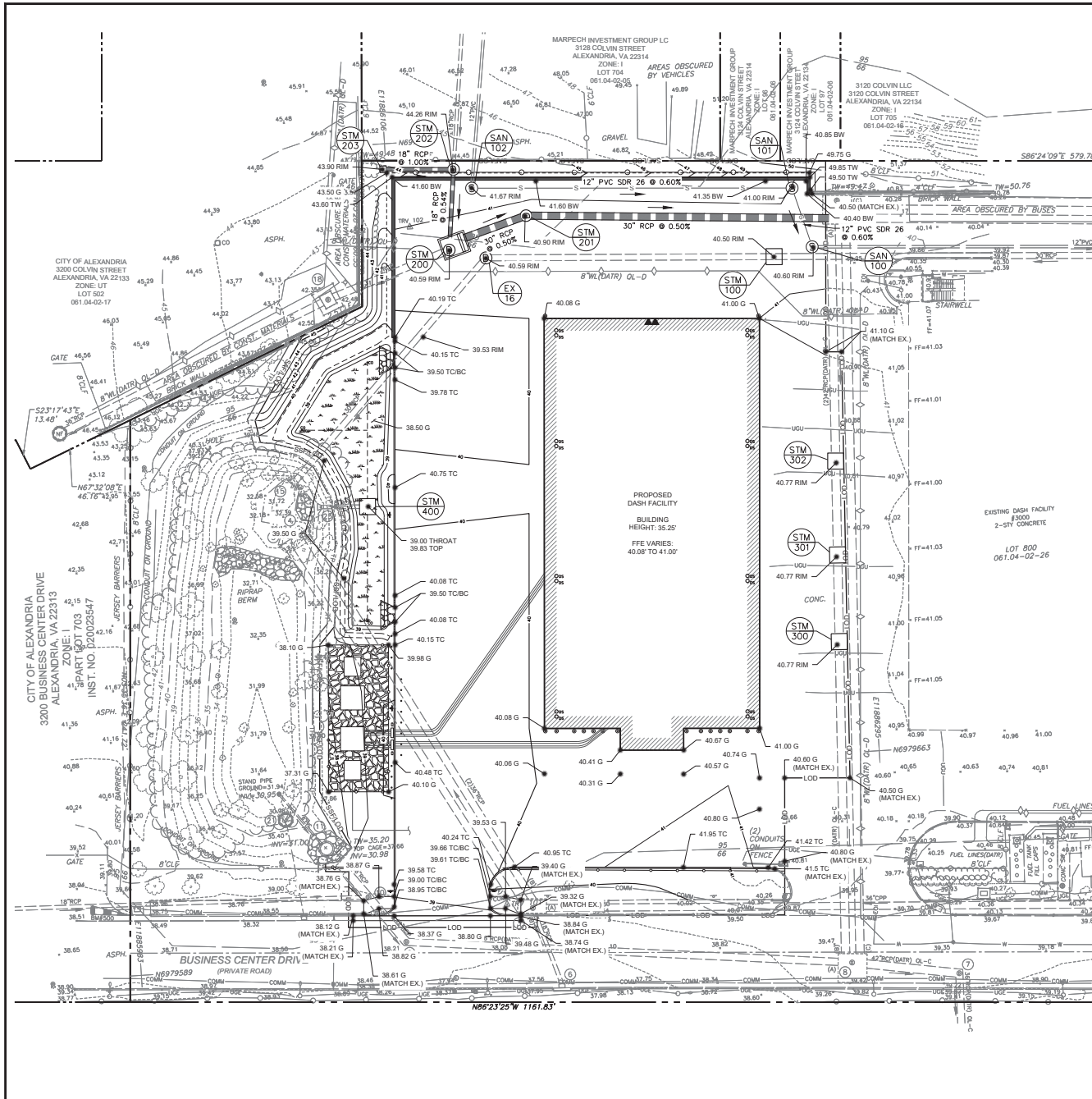
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| <b>DESIGN LANDSCAPE ARCHITECT &amp; DESIGN ENGINEER</b><br><b>AMT</b><br>A. M. T. LANDSCAPE ARCHITECTS, INC.<br>3000 CENTRE DRIVE, SUITE 200<br>FALLS CHURCH, VA 22044<br>PHONE: (703) 271-2345<br>FAX: (703) 271-2346<br>EMAIL: INFO@AMTDC.COM                                                                                                        |             | DATE: 06/22/2025<br>SCALE: 1"=30'<br>DRAWN: CM, LCC |
| SEAL: [Professional Engineer Seal for Chelsea M. Bishop, State of Virginia, License No. 60223, Exp. 06/22/2025]                                                                                                                                                                                                                                        |             |                                                     |
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| DEVELOPMENT: PRELIMINARY PLAN SUBMISSION - NOT FOR CONSTRUCTION                                                                                                                                                                                                                                                                                        |             |                                                     |
| SHEET NAME:<br><b>EROSION AND SEDIMENT CONTROL DETAILS</b>                                                                                                                                                                                                                                                                                             |             |                                                     |
| APPROVED SPECIAL USE PERMIT NO. _____<br>DEPARTMENT OF PLANNING & ZONING<br>DIRECTOR _____ DATE _____<br>DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES<br>SITE PLAN No. _____<br>DIRECTOR _____ DATE _____<br>CHAIRMAN, PLANNING COMMISSION _____ DATE _____<br>DATE RECORDED _____<br>INSTRUMENT NO. _____ DEED BOOK NO. _____ PAGE NO. _____ |             |                                                     |











### GRADING LEGEND

- LOD LIMITS OF DISTURBANCE
- PROPERTY LINE
- MAJOR CONTOUR
- MINOR CONTOUR
- G PROPOSED FINISH GRADE ELEVATION
- TW PROPOSED TOP OF WALL ELEVATION
- BW PROPOSED BOTTOM OF WALL ELEVATION (ADJACENT FINISH GRADE)
- TC PROPOSED TOP OF CURB ELEVATION
- BC PROPOSED BOTTOM OF CURB ELEVATION (ADJACENT FINISH GRADE)
- IRM PROPOSED RIM ELEVATION (SEE SWM/STORM DRAIN PLANS)
- INV PROPOSED INVERT ELEVATION (SEE SWM/STORM DRAIN PLANS)

### GRADING & ADA COMPLIANCE NOTES:

- THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL ELEMENTS ARE CONSTRUCTED IN ACCORDANCE WITH THE DESIGN DOCUMENTS AND CONTRACT CONDITIONS INCLUDING THE 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN (ADA) AND THE VIRGINIA ACCESSIBILITY CODE AND ANY UPDATES. IF THE CONTRACTOR OBSERVES THAT PORTIONS OF THE PROJECT ARE NON-COMPLIANT WITH THE ADA, HE SHALL NOTIFY CITY OF ALEXANDRIA PROJECT MANAGER SO THAT A FIELD ADJUSTMENT CAN BE MADE TO ENSURE COMPLIANCE. GRADE TOLERANCES SHALL BE MEASURED WITH A 2 FOOT DIGITAL LEVEL.
  - VERIFY ALL EXISTING AND PROPOSED GRADES PRIOR TO FINAL CONSTRUCTION. CONTRACTOR SHALL STAKE OUT GRADES IN THE FIELD FOR REVIEW BY CITY OF ALEXANDRIA PROJECT MANAGER PRIOR TO FINAL CONSTRUCTION.
  - PROPOSED GRADING SHALL MEET EXISTING GRADE UNIFORMLY TO ENSURE A SMOOTH TRANSITION. NOTIFY CITY OF ALEXANDRIA PROJECT MANAGER IMMEDIATELY IF THERE ARE ANY EDGE CONDITIONS THAT CREATE AREAS WITHOUT POSITIVE DRAINAGE.
  - ALL LONGITUDINAL SLOPES ALONG THE WALKS SHALL BE NO STEEPER THAN 4.8% WITHOUT RAILING AND 8.1% WITH RAILING. THE CROSS SLOPE SHALL BE MINIMUM 1% AND MAXIMUM 1.8% OR AS NOTED ON THE DRAWINGS. ALL LANDING AND TRANSITION AREAS SHALL BE LESS THAN 1.8% IN ALL DIRECTIONS. THESE LIMITS PROVIDE A 0.2% MARGIN FROM THE D.O.J. ADA REQUIREMENTS TO ALLOW FOR CONSTRUCTION TOLERANCES.
  - ANY HARDSCAPE SURFACE AREAS THAT ARE BUILT WITHOUT COMPLYING WITH THE ABOVE CODE MUST BE CORRECTED BY CONTRACTOR AT NO ADDITIONAL EXPENSE.
  - THE MAXIMUM VERTICAL CHANGE BETWEEN THE FINISH GRADES OF ADJACENT HARDSCAPE SURFACES IS 2". THE MAXIMUM HORIZONTAL GAP BETWEEN THE EDGES OF ADJACENT HARDSCAPE SURFACES IS 8".
- NOTE:** THE MAXIMUM ALLOWABLE DROP FROM THE TOP WALL (TW) ELEVATIONS TO THE FINISH GRADE OF THE ADJACENT BOTTOM WALL (BW) ELEVATION IS 2.5' (30"). IF THE "FALL HEIGHT" EXCEEDS 30", A BARRIER (I.E. HANDRAIL, GUARDRAIL, FENCING) IS REQUIRED.

### ARCHAEOLOGY GENERAL NOTES

- THIS PROPERTY IS SITUATED ON A LOW TERRACE NEAR A TRIBUTARY STREAM OF CAMERON RUN. PREHISTORIC SITES HAVE BEEN DISCOVERED IN THIS TYPE OF SETTING, AND A NATIVE AMERICAN CAMP WAS FOUND ON THIS TERRACE TO THE EAST OF THE DEVELOPMENT AREA. PREVIOUS ARCHAEOLOGICAL TESTING ON PARTS OF THE PROJECT AREA HAS INDICATED THAT THERE HAS BEEN PREVIOUS GRADING ACROSS SOME OF THE SITE, BUT IN ONE AREA, THE ARCHAEOLOGISTS DISCOVERED THE PRESENCE OF A BURIED SURFACE. THE WESTERN PORTION OF THE PROJECT AREA HAS NEVER BEEN TESTED, AND A BURIED SURFACE COULD ALSO BE PRESENT IN THIS SECTION. IT IS POSSIBLE THAT THE BURIED SURFACE COULD CONTAIN REMNANTS OF PREHISTORIC OCCUPATION. IN ADDITION, THERE IS A POSSIBILITY THAT THE SURFACE COULD CONTAIN EVIDENCE OF CIVIL WAR ENCAMPMENTS.
- CALL ALEXANDRIA ARCHAEOLOGY (703-746-4399) TWO (2) WEEKS BEFORE THE STARTING DATE OF ANY GROUND DISTURBANCE SO THAT CITY ARCHAEOLOGISTS CAN ARRANGE FOR A TIME TO INSPECT THE PROPERTY.
- CALL ALEXANDRIA ARCHAEOLOGY IMMEDIATELY (703-746-4399) IF ANY BURIED STRUCTURAL REMAINS (WALL FOUNDATIONS, WELLS, PRIVIES, CISTERNS, ETC.) OR CONCENTRATIONS OF ARTIFACTS (PREHISTORIC STONE TOOLS, OR CIVIL WAR ARTIFACTS) ARE DISCOVERED DURING DEVELOPMENT. WORK MUST CEASE IN THE AREA OF THE DISCOVERY UNTIL A CITY ARCHAEOLOGIST COMES TO THE SITE AND RECORDS THE FINDS.
- THE APPLICANT SHALL NOT ALLOW ANY METAL DETECTION AND/OR ARTIFACT COLLECTIONS TO BE CONDUCTED ON THE PROPERTY UNLESS AUTHORIZED BY ALEXANDRIA ARCHAEOLOGY. FAILURE TO COMPLY SHALL RESULT IN PROJECT DELAYS.

**DESIGN LANDSCAPE ARCHITECT & DESIGN ENGINEER**

**AMT**

A. MARPECH INVESTMENT GROUP  
3120 COLVIN STREET  
ALEXANDRIA, VA 22314  
LOT 704  
ZONE: 1  
08/04-02-18

CITY OF ALEXANDRIA  
3200 COLVIN STREET  
ALEXANDRIA, VA 22313  
ZONE: 1  
LOT 502  
08/04-02-17

CITY OF ALEXANDRIA  
3200 BUSINESS CENTER DRIVE  
ALEXANDRIA, VA 22313  
ZONE: 1  
PART LOT 703  
INST. NO. 060223547

DATE: 02/27/2025  
SCALE: 1"=20'

PROJ. MANAGER: CHELSEA M. BISHOP, P.E., ENVIRONMENTAL ENGINEER  
SCALE: 1"=20'

DEVELOPMENT PRELIMINARY PLAN SUBMISSION - NOT FOR CONSTRUCTION

REVISION APPROVED BY

| NO. | DESCRIPTION | DATE | APPROVED |
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**CITY OF ALEXANDRIA**  
**DASH FACILITY**  
3000 BUSINESS CENTER DRIVE  
ALEXANDRIA, VIRGINIA 22314

**GRADING PLAN**

SHEET NAME:

**APPROVED**  
**SPECIAL USE PERMIT NO.**  
DEPARTMENT OF PLANNING & ZONING

DIRECTOR: \_\_\_\_\_ DATE: \_\_\_\_\_  
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES  
SITE PLAN No. \_\_\_\_\_

DIRECTOR: \_\_\_\_\_ DATE: \_\_\_\_\_

CHAIRMAN, PLANNING COMMISSION: \_\_\_\_\_ DATE: \_\_\_\_\_  
DATE RECORDED: \_\_\_\_\_

INSTRUMENT NO. \_\_\_\_\_ DEED BOOK NO. \_\_\_\_\_ PAGE NO. \_\_\_\_\_



|                                                                                     |                           |
|-------------------------------------------------------------------------------------|---------------------------|
| —— LOD ——                                                                           | LIMITS OF DISTURBANCE     |
| —— S ——                                                                             | PROPERTY LINE             |
| —— S ——                                                                             | SANITARY SEWER LINE       |
| —— UGE ——                                                                           | UNDERGROUND ELECTRIC LINE |
|  | STORM LINE                |
|  | SANITARY SEWER MANHOLE    |
|  | STORM MANHOLE             |
|  | AREA INLET                |

1. SANITARY SEWER MANHOLE, SEE DETAIL CSMH-3/C-503
2. STORM MANHOLE, SEE DETAIL CSMH-31/C-503
3. STANDARD DROD INLET, SEE DETAIL CSDI-2A/C-503
4. UNDERGROUND ELECTRIC LINE (REFER TO ELECTRICAL DRAWINGS)
5. DOGHOUSE STRUCTURE BASE (CSMH-5) WITH VDOT FLAT SLAB REDUCER (R-2), RISER (R-1) AND VDOT GRATE INLET (T-DI-1)
6. STORM MANHOLE TOP UNIT WITH COVER OVER EXISTING BASE TO REMAIN, SEE DETAIL CSMH-3/C-503
7. STORM CLEANOUT, SEE DETAIL 2/C-504
8. CUSTOM JUNCTION BOX, SEE DETAIL 1/C-504
9. YARD INLET, SEE DETAIL CSYI-1/C-504

1. THIS PROPERTY IS SITUATED ON A LOW TERRACE NEAR A TRIBUTARY STREAM OF CAMERON RUN. PREHISTORIC SITES HAVE BEEN DISCOVERED IN THIS TYPE OF SETTING, AND A NATIVE AMERICAN CAMP WAS FOUND ON THIS TERRACE TO THE EAST OF THE DEVELOPMENT AREA. PREVIOUS GEOLOGICAL AND ARCHAEOLOGICAL TESTING ON PARTS OF THE PROJECT AREA HAS INDICATED THAT THERE HAS BEEN PREVIOUS GRADING ACROSS SOME OF THE SITE, BUT IN ONE AREA, THE ARCHAEOLOGISTS DISCOVERED THE PRESENCE OF A BURIED SURFACE. THE WESTERN PORTION OF THE PROJECT AREA HAS NEVER BEEN GRADED. IN ADDITION, THERE IS A POSSIBILITY THAT THE BURIED SURFACE SECTION IS IT POSSIBLE THAT THE BURIED SURFACE COULD CONTAIN REMNANTS OF PREHISTORIC OR HISTORIC STRUCTURES. IN ADDITION, THERE IS A POSSIBILITY THAT THE SURFACE COULD CONTAIN EVIDENCE OF CIVIL WAR ENCAMPMENTS.

2. THAT ALEXANDRIA ARCHAEOLOGY (703-746-4399) TWO (2) WEEKS BEFORE THE STARTING DATE OF ANY GROUND DISTURBANCE SO THAT CITY ARCHAEOLOGISTS CAN ARRANGE FOR A TIME TO INSPECT THE PROPERTY.

3. THAT ALEXANDRIA ARCHAEOLOGY IMMEDIATELY (703-746-4399) IF ANY BURIED STRUCTURAL REMAINS (WALL FOUNDATIONS, WELLS, PIPES, CISTERS, ETC.) OR CONCENTRATIONS OF PREHISTORIC OR HISTORIC ARTIFACTS (TOOLS, COIN, OR OTHER OBJECTS) ARE DISCOVERED DURING DEVELOPMENT. WORK MUST CEASE IN THE AREA OF THE DISCOVERY UNTIL A CITY ARCHAEOLOGIST COMES TO THE SITE AND RECORDS THE FINDS.

4. THE APPLICANT SHALL NOT ALLOW ANY METAL DETECTION AND/OR ARTIFACT COLLECTIONS TO BE CONDUCTED ON THE PROPERTY, UNLESS AUTHORIZED BY ALEXANDRIA ARCHAEOLOGY. FAILURE TO COMPLY SHALL RESULT IN THE CITY OF ALEXANDRIA WITHDRAWING ITS SUPPORT FOR THE PROJECT.

DESIGN LANDSCAPE ARCHITECT & DESIGN ENGINEER



CONSULTING ENGINEERS  
3076 CENTREVILLE DRIVE, SUITE 220  
HERNDON, VA 20171  
PHONE (703) 891-2545  
EMAIL: AMTI@AMTENGINEERING.COM  
PROJECT MANAGER: CUCI SCA BOND DE EMAIL: CUCI@AMTENGINEERING.COM

ICMF: 17-20

REVISION APPROVED BY

[illegible]

DEVELOPMENT PRELIMINARY PLAN SUBMISSION - NOT FOR CONSTRUCTION

**CITY OF ALEXANDRIA  
DASH FACILITY**  
3000 BUSINESS CENTER DRIVE  
ALEXANDRIA, VIRGINIA 22314

SHEET NAME: UTILITY PLAN

APPROVED  
SPECIAL USE PERMIT NO. \_\_\_\_\_  
DEPARTMENT OF PLANNING

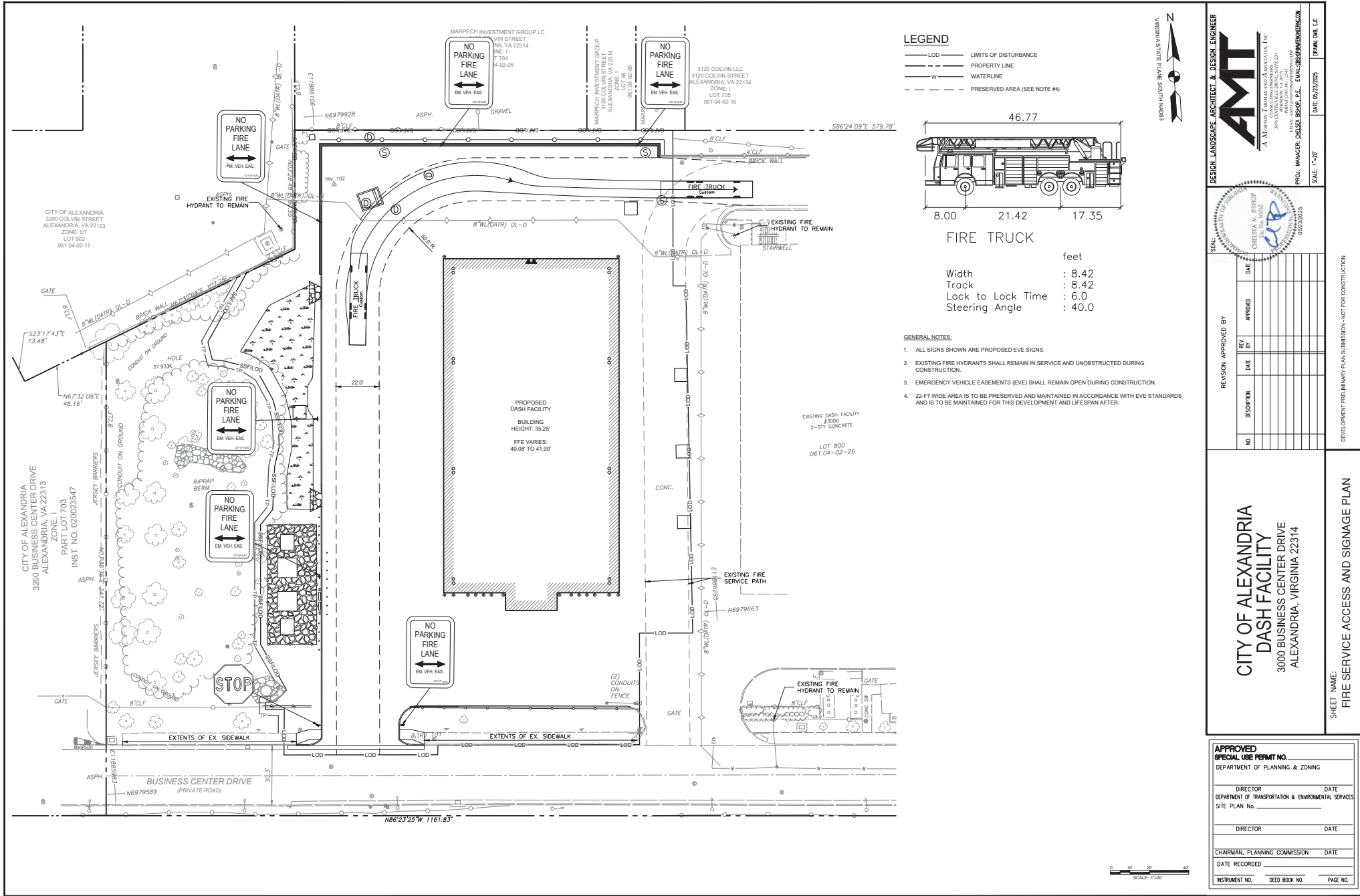
DIRECTOR \_\_\_\_\_ DATE \_\_\_\_\_  
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES  
SITE PLAN No. \_\_\_\_\_

|          |      |
|----------|------|
| DIRECTOR | DATE |
|----------|------|

CHAIRMAN, PLANNING COMMISSION      DATE \_\_\_\_\_  
DATE RECORDED \_\_\_\_\_

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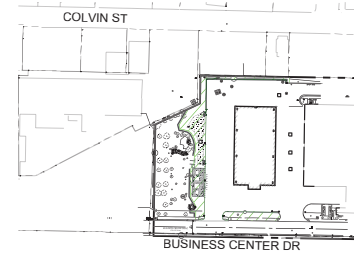
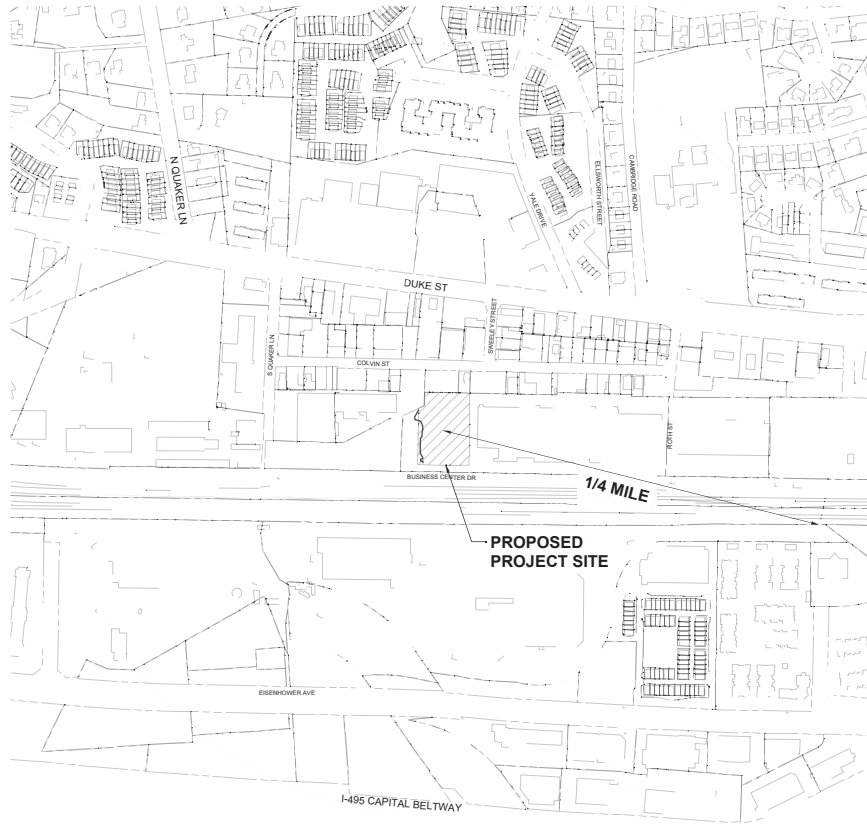
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| <b>APPROVED</b>                                       |               |          |
| <b>SPECIAL USE PERMIT NO.</b>                         |               |          |
| DEPARTMENT OF PLANNING & ZONING                       |               |          |
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| DIRECTOR                                              | DATE          |          |
| DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES |               |          |
| SITE PLAN NO. _____                                   |               |          |
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| DIRECTOR                                              | DATE          |          |
|                                                       |               |          |
| CHAIRMAN, PLANNING COMMISSION                         | DATE          |          |
| DATE RECORDED _____                                   |               |          |
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#### LEGEND

APPROXIMATE LOCATIONS OF PROPOSED GREEN SPACE WITHIN PROJECT SITE AREA

#### OPEN SPACE TABULATIONS

EXISTING ON LOT AREA: 119,744 SF  
PROPOSED ON LOT AREA: 109,488 SF



**DESIGN LANDSCAPE ARCHITECT & DESIGN ENGINEER**  
**AMT**  
A MARYLAND FIRM AND ASSOCIATES, INC.  
300 CONVENT ROAD, SUITE 200  
BETHESDA, MD 20814  
PHONE: (301) 221-2244  
FAX: (301) 221-2245  
WWW.AMTDESIGN.COM  
PROJ. MGR: CHELSEA BISHOP, P.E., ENV. ENGINEER/REG. NO. 000222025  
SCALE: 1"=20'  
DATE: 02/21/2025  
DRAWN: DM, E.C.

| REVISION | APPROVED BY       | DATE       | DESCRIPTION                                        |
|----------|-------------------|------------|----------------------------------------------------|
| 1        | CHELSEA M. BISHOP | 02/21/2025 | PRELIMINARY PLAN SUBMISSION - NOT FOR CONSTRUCTION |

**CITY OF ALEXANDRIA**  
**DASH FACILITY**  
3000 BUSINESS CENTER DRIVE  
ALEXANDRIA, VIRGINIA 22314

SHEET NAME:  
**CONTEXTUAL AND OPEN SPACE PLAN**

**APPROVED**  
**SPECIAL USE PERMIT NO.** \_\_\_\_\_  
DEPARTMENT OF PLANNING & ZONING

DIRECTOR \_\_\_\_\_ DATE \_\_\_\_\_  
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES  
SITE PLAN NO. \_\_\_\_\_

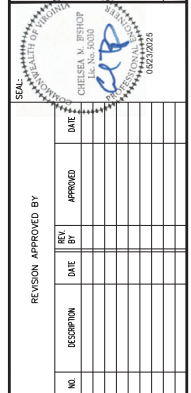
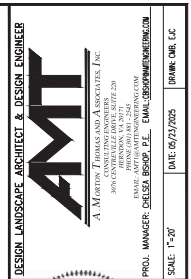
DIRECTOR \_\_\_\_\_ DATE \_\_\_\_\_

CHAIRMAN, PLANNING COMMISSION \_\_\_\_\_ DATE \_\_\_\_\_  
DATE RECORDED \_\_\_\_\_

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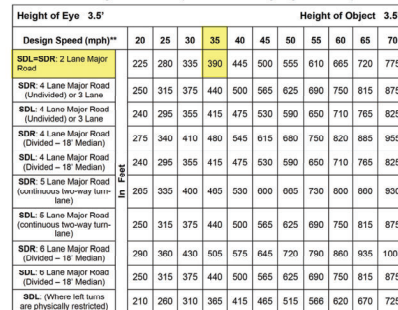




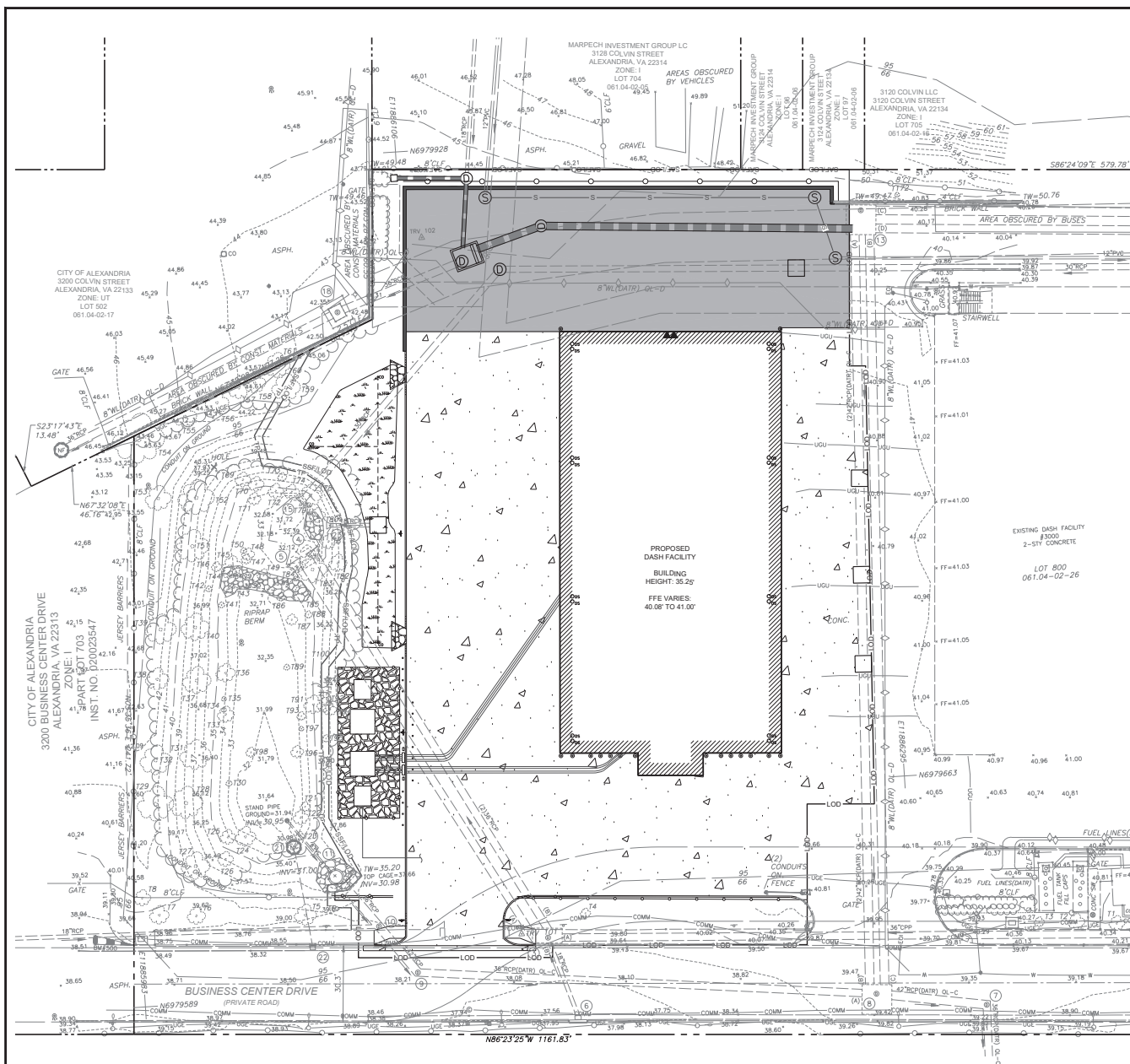
**CITY OF ALEXANDRIA  
DASH FACILITY**  
3000 BUSINESS CENTER DRIVE  
ALEXANDRIA, VIRGINIA 22314

SHEET NAME: SIGHT DISTANCE PROFILES

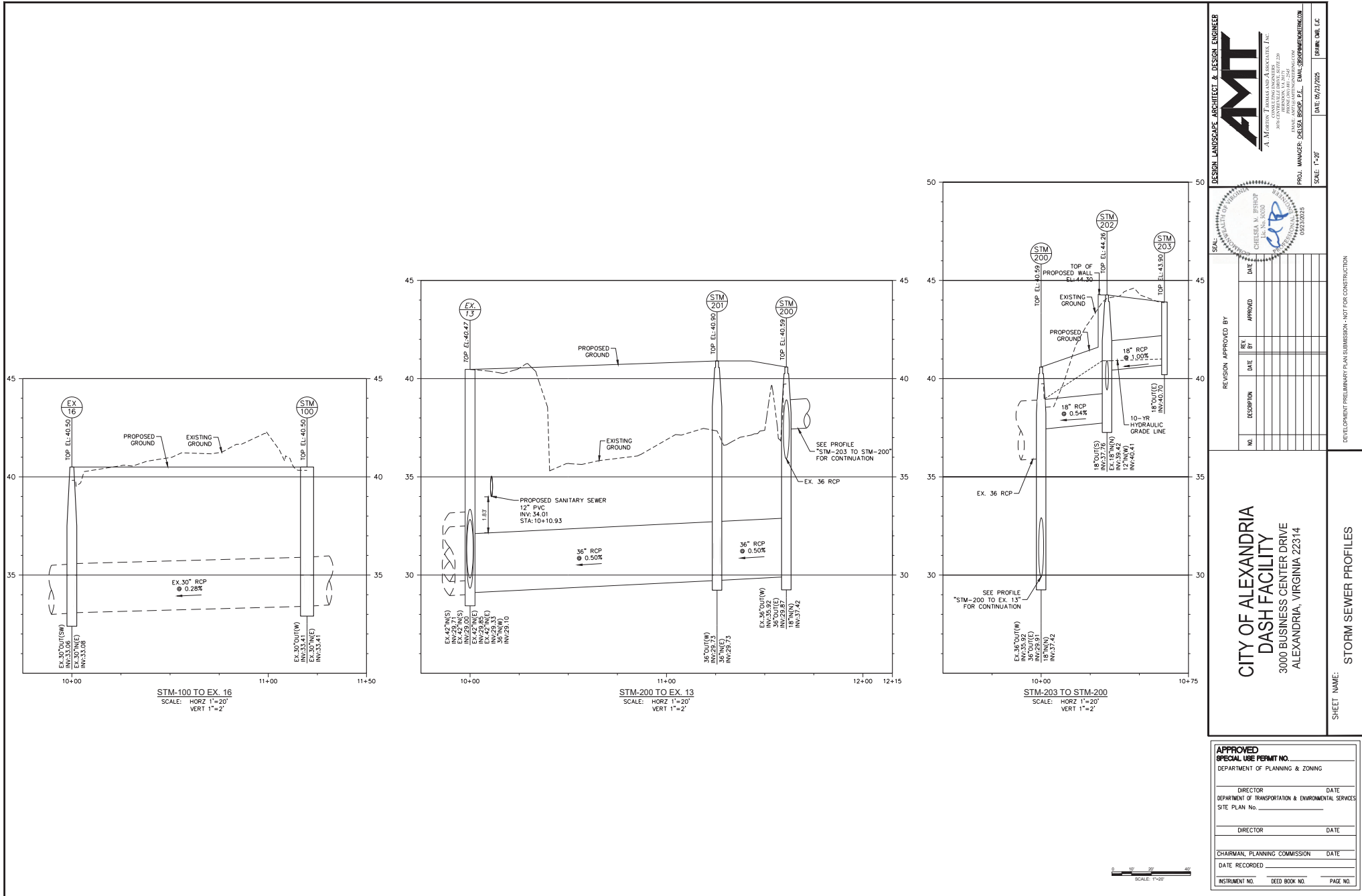
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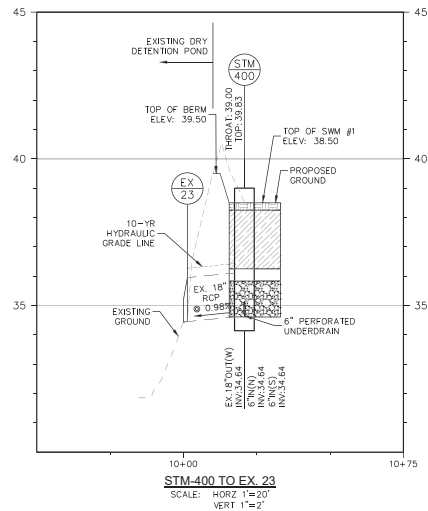
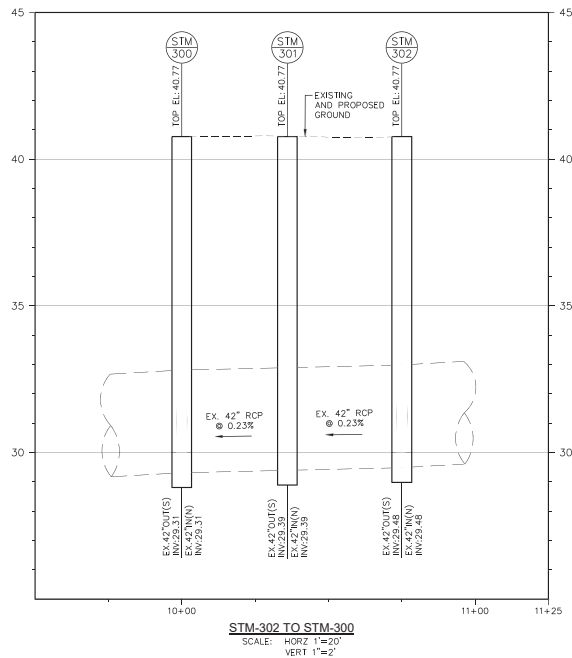


\* Rev. 1/14



Job No. 23-0754.001





| STORM STRUCTURE SCHEDULE |              |            |             |        |                |                 |
|--------------------------|--------------|------------|-------------|--------|----------------|-----------------|
| STRUCTURE                | TYPE         | NORTHING   | EASTING     | TOP    | INVERT IN      | INVERT OUT      |
| EX-16                    | MANHOLE      | 6979877.80 | 11886144.75 | 40.50' | 30" (E) 33.06' | 30" (SW) 33.06' |
| STM-100                  | INLET        | 6979870.80 | 11886264.28 | 40.50' | 30" (E) 33.41' | 30" (W) 33.41'  |
| STM-200                  | JUNCTION BOX | 6979882.02 | 11886129.75 | 40.59' | 18" (N) 37.61' | 36" (W) 35.92'  |
| STM-201                  | MANHOLE      | 6979894.28 | 11886162.47 | 40.90' | 36" (E) 29.73' | 36" (SW) 29.73' |
| STM-202                  | MANHOLE      | 6979915.33 | 11886133.60 | 44.26' | 18" (N) 39.42' | 18" (S) 37.76'  |
| STM-203                  | INLET        | 6979917.26 | 11886104.44 | 43.90' |                | 12" (E) 40.70'  |
| STM-300                  | INLET        | 6979709.51 | 11886281.30 | 40.77' | 42" (N) 29.31' | 42" (S) 29.31'  |
| STM-301                  | INLET        | 6979745.49 | 11886282.84 | 40.77' | 42" (N) 29.39' | 42" (S) 29.39'  |
| STM-302                  | INLET        | 6979784.46 | 11886284.51 | 40.77' | 42" (N) 29.48' | 42" (S) 29.48'  |
| STM-400                  | INLET        | 6979777.78 | 11886089.15 | 39.83' | 6" (N) 35.00'  | 18" (W) 34.64'  |

| STORM PIPE SCHEDULE |         |      |          |             |
|---------------------|---------|------|----------|-------------|
| FROM                | TO      | SIZE | MATERIAL | LENGTH (FT) |
| EX-13               | STM-201 | 36"  | RCP      | 125.73'     |
| STM-201             | STM-200 | 36"  | RCP      | 27.21'      |
| STM-202             | STM-200 | 18"  | RCP      | 28.02'      |
| STM-203             | STM-202 | 18"  | RCP      | 29.23'      |

0 10' 20' 40'

SCALE: 1"=20'

SHEET NO: C-202 28 OF 94

**APPROVED**  
SPECIAL USE PERMIT NO. \_\_\_\_\_  
DEPARTMENT OF PLANNING & ZONING

DIRECTOR \_\_\_\_\_ DATE \_\_\_\_\_  
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES  
SITE PLAN No. \_\_\_\_\_

DIRECTOR \_\_\_\_\_ DATE \_\_\_\_\_

CHAIRMAN, PLANNING COMMISSION \_\_\_\_\_ DATE \_\_\_\_\_  
DATE RECORDED \_\_\_\_\_  
INSTRUMENT NO. \_\_\_\_\_ DEED BOOK NO. \_\_\_\_\_ PAGE NO. \_\_\_\_\_

**AMT**  
A. MASON, TOWN AND ASSOCIATES, INC.  
300 CENTRE STREET, SUITE 200  
PROVIDENCE, RI 02909  
PHONE: (401) 261-2345  
FAX: (401) 261-2346  
E-MAIL: CHASE@AMTDESIGN.COM

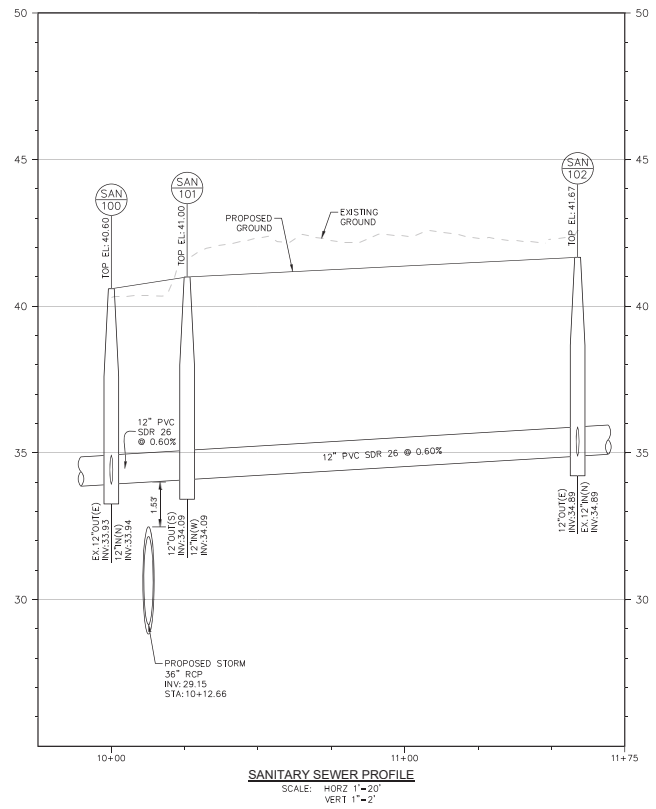
PROJ. MGR: CHASE, J.E. DATE: 02/23/2025  
SCALE: 1"=20'

**CITY OF ALEXANDRIA**  
**DASH FACILITY**  
3000 BUSINESS CENTER DRIVE  
ALEXANDRIA, VIRGINIA 22314

**STORM SEWER PROFILES**

REVISION APPROVED BY \_\_\_\_\_  
REL ST \_\_\_\_\_ DATE \_\_\_\_\_  
DESCRIBED \_\_\_\_\_

DEVELOPMENT PRELIMINARY PLAN SUBMISSION - NOT FOR CONSTRUCTION



| SANITARY SEWER STRUCTURE SCHEDULE |         |            |             |        |                |                |
|-----------------------------------|---------|------------|-------------|--------|----------------|----------------|
| STRUCTURE                         | TYPE    | NORTHING   | EASTING     | TOP    | INVERT IN      | INVERT OUT     |
| SAN-100                           | MANHOLE | 6979873.88 | 11886280.32 | 40.60' | 12" (N) 33.94' | 12" (E) 33.93' |
| SAN-101                           | MANHOLE | 6979898.78 | 11886273.51 | 41.00' | 12" (W) 34.09' | 12" (S) 34.09' |
| SAN-102                           | MANHOLE | 6979907.08 | 11886140.66 | 41.67' | 12" (N) 34.89' | 12" (E) 34.89' |

| SANITARY SEWER PIPE SCHEDULE |         |      |            |             |
|------------------------------|---------|------|------------|-------------|
| FROM                         | TO      | SIZE | MATERIAL   | LENGTH (FT) |
| SAN-101                      | SAN-100 | 12"  | PVC SDR 26 | 25.82'      |
| SAN-102                      | SAN-101 | 12"  | PVC SDR 26 | 133.12'     |



**CITY OF ALEXANDRIA  
DASH FACILITY**  
3000 BUSINESS CENTER DRIVE  
ALEXANDRIA, VIRGINIA 22314

**SANITARY SEWER PROFILES**

REVISION APPROVED BY

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DEVELOPMENT PRELIMINARY PLAN SUBMISSION - NOT FOR CONSTRUCTION

APPROVED  
SPECIAL USE PERMIT NO. \_\_\_\_\_  
DEPARTMENT OF PLANNING & ZONING

DIRECTOR \_\_\_\_\_ DATE \_\_\_\_\_  
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES  
SITE PLAN No. \_\_\_\_\_

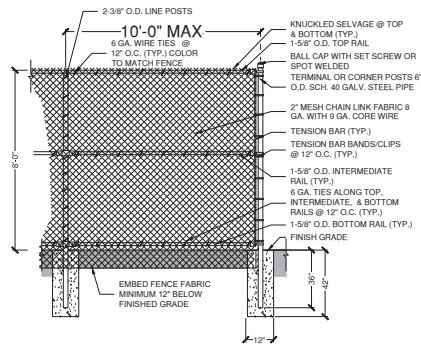
DIRECTOR \_\_\_\_\_ DATE \_\_\_\_\_

CHAIRMAN, PLANNING COMMISSION \_\_\_\_\_ DATE \_\_\_\_\_  
DATE RECORDED \_\_\_\_\_

INSTRUMENT NO. \_\_\_\_\_ DEED BOOK NO. \_\_\_\_\_ PAGE NO. \_\_\_\_\_

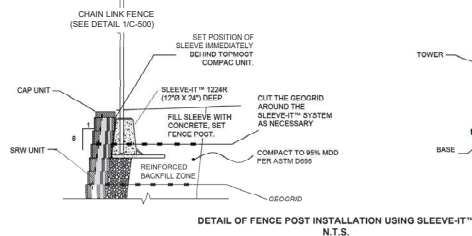
AMT  
A. MASON, TOWN AND ASSOCIATES, INC.  
3000 BUSINESS CENTER DRIVE, SUITE 200  
ALEXANDRIA, VA 22314  
PHONE (703) 836-7248  
FAX (703) 836-7249  
WWW.AMTENGINEERING.COM  
PROJ. MGR: CHELSEA BISHOP, P.E. - ENVIRONMENTAL  
DATE: 02/23/2025  
SCALE: 1"=20'  
DRAWN: DM, E.C.





- NOTES:
- FENCE FABRIC SHALL BE SECURED TO GATE FRAMES WITH KNUCKLED SELVAGE ALONG EDGES.
  - PROVIDE 6" O.D. TERMINAL CORNER POSTS, INTERSECTIONS CHANGES IN DIRECTION AND 200 LIN. FT. FOR ALL CHAIN LINK FENCING
  - FABRIC AND POST COLOR TO BE BLACK.
  - PROVIDE 8 GA. WIRE TIES @ 12" O.C. (TYP.) COLOR TO MATCH FENCE
  - ALL CONCRETE FOOTINGS AROUND POSTS AND GROUND LINE SHALL BE MOUNDED AND SLOPED FOR POSITIVE DRAINAGE.
  - PROVIDE VDOT CLASS A3 CONCRETE FOR ALL FOOTINGS.

1 8'-0" CHAINLINK FENCE WITH 6" TERMINAL POST  
NOT TO SCALE



- ASSEMBLY & INSTALLATION
- General - The Sleeve-IT™ post foundation system shall be purchased and installed by the retaining wall contractor to facilitate fence keep and installation. Contractor shall verify proper spacing requirements prior to installation.
  - Assembly & Installation - Refer to instructions provided with units for specific information related to the assembly of the Sleeve-IT™ system and the correct installation procedure. When the separate retaining wall has been constructed to two feet from top rail including the capstone.
  - Step 1: Prepare a level area approximately 24" wide x 36" deep behind the wall base. The prepared area should be 24" below the proposed top of wall (not including the cap stone).
  - Step 2: Place the Sleeve-IT unit on the level surface in an upright position with the front edge of the unit flush against the back of the wall. Multiple units should be spaced in accordance with fence specifications.
  - Step 3: Excavate and stabilize the Sleeve-IT unit by placing and compacting sufficient backfill material layers as required. If geogrid is required, cut the geogrid perpendicular to the wall base just enough to fit around the base of the unit while ensuring that the geogrid remains properly aligned to the wall. Continue the backfilling process until the material reaches the top of the tower. Do not remove perforated sleeve ready to place post. Do not stop on perforated fill, as this could create voids below tower.
  - Step 4: Punch the perforated fill using a mallet or hammer to expose the inside of the Sleeve-IT unit. Detached lids can be left inside the unit or discarded prior to placing the wall material.
  - Step 5: Place post through the exposed area and rest on the flat ground surface area inside the Sleeve-IT cavity. Ensure that the post is upright and level and hold in place while carefully pouring fill material such as concrete through the exposed cavity. Follow guidelines as located by fill supplier. Concrete is highly recommended as fill material.

2 SLEEVE-IT FENCE POST DETAIL BEHIND RETAINING WALL  
SCALE NOT TO SCALE

Important Note: Sackfill soil as prescribed by retaining wall manufacturer. Sackfill material above and surrounding the Sleeve-IT™ system must be compacted to a minimum of 90% of the material's maximum dry density as determined by ASTM D-1557 (Standard Practice). Sackfill and compaction within three feet of the wall face should be performed with hand operated equipment as recommended by the National Concrete Masonry Association (NCMA) SRF guidelines.

Repeat Above Steps for next Sleeve-IT™ unit.

Formal notes shall relate to minimum distance of 10' into the closest structural member engagement with the Sleeve-IT™ system. All joints must be on the "outside" side of the vertical portion of the cantilever base. Fill cavity completely with concrete. When concrete cures, loose or other surface cover can be placed over the Sleeve-IT™ system to create final finished appearance.

The Sleeve-IT™ product shall be evenly spaced 1 line of the Sleeve-IT™ system is listed in the following listing requirements without consideration of wall break:

- 8' steel high and under steel high fence
- 8' steel high and under steel high fence with gate between boards
- 8' steel high and under steel high fence with 10' steel high and under steel high fence

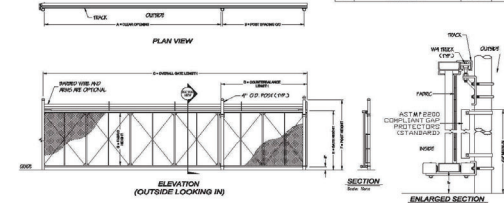
For other fencing systems specifically not meeting these criteria, contact Sleeve Systems Inc., to determine feasibility. 1. PREPARE THE PREPARED OR EXISTING EXISTING AREA.

ALL material may be subject to site testing for compliance to the above specifications.



- FEATURES AND BENEFITS
- Closes openings up to 30' wide
  - Double/fin-parting closes openings up to 60' wide
  - Gate panels are made of aluminum alloy extrusions for strength, durability, and light weight
  - Infill alternatives include chain link, ornamental picket, and custom configurations
  - Adjustable diagonal 1/4" cables provide zero to minimal deflection

| ITEM | DESCRIPTION                     | FORMULA  | UNIT |
|------|---------------------------------|----------|------|
| A    | CHAIN LINKING                   | A        | -    |
| B    | COUNTERBLANCE POST SPACING (DC) | (B) 1/2" | -    |
| C    | CHAINS LINK LENGTH              | A x B    | -    |
| D    | COUNTERBLANCE LENGTH            | A x B    | -    |
| E    | CHAINING GATE HEIGHT            | E        | -    |
| F    | POST HEIGHT (OF BASE AREA)      | E + F    | -    |
| G    | FRAME HEIGHT                    | E + F    | -    |



NOTE: STANDARD HEIGHTS UP TO 8'-0". FOR HEIGHTS ABOVE 8' CONTACT MANUFACTURER.

For more information on our Heavy-Duty Cantilever Gate  
Contact TYMETAL at 1.800.328.GATE (4283)

678 Wilbur Avenue, Greenwich, NY 12834  
4501 Dixie Farm Road, Pearland, TX 77581



3 25' SLIDING VEHICULAR GATE  
SCALE NOT TO SCALE

DESIGN LANDSCAPE ARCHITECT & DESIGN ENGINEER

**AMT**

A. M. T. LANDSCAPE ARCHITECTS, INC.

300 CENTRE DRIVE, SUITE 200  
GREENWICH, NY 12834  
PHONE: 518.336.2345  
FAX: 518.336.2346  
EMAIL: CDR@AMTNY.COM

PROJ. MANAGER: CHELSEA M. BISHOP, P.E., EMAIL: CDR@AMTNY.COM

DATE: 06/22/2025

SCALE: 1"=30'

SHAWN CHAI, L.C.

SEAL: STATE OF NEW YORK

CHELSEA M. BISHOP  
REGISTERED PROFESSIONAL ENGINEER  
EXPIRATION DATE: 06/22/2025

| REVISION APPROVED BY | DATE | APPROVED | DATE | DESCRIPTION |
|----------------------|------|----------|------|-------------|
| REL                  | DATE | DATE     | DATE | DESCRIPTION |
| NO.                  |      |          |      |             |

CITY OF ALEXANDRIA  
DASH FACILITY  
3000 BUSINESS CENTER DRIVE  
ALEXANDRIA, VIRGINIA 22314

SHEET NAME: SITE DETAILS

APPROVED  
SPECIAL USE PERMIT NO. \_\_\_\_\_  
DEPARTMENT OF PLANNING & ZONING

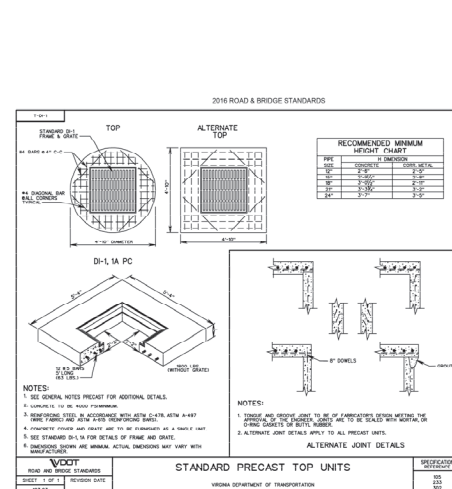
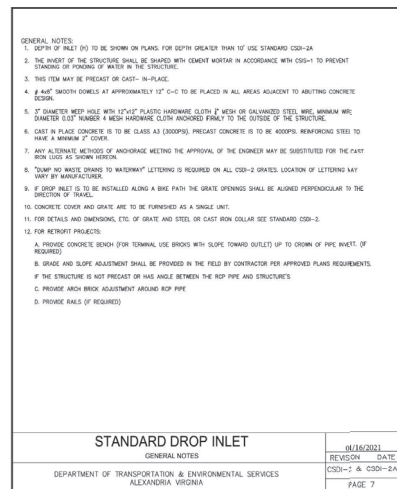
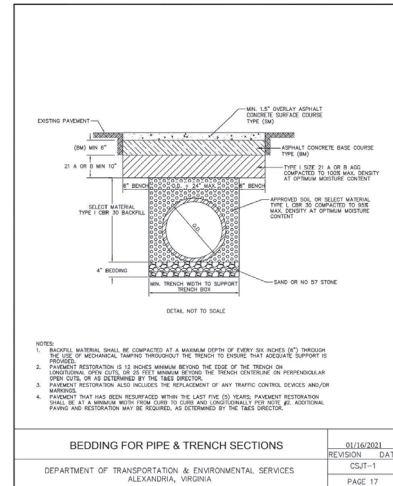
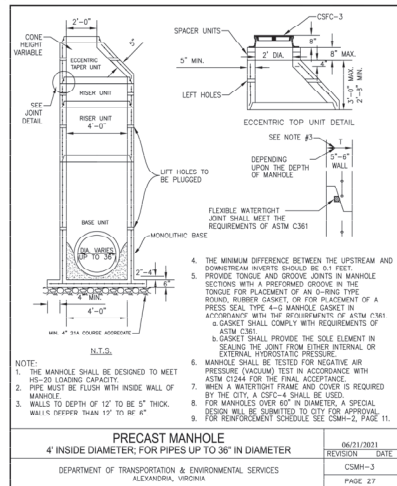
DIRECTOR \_\_\_\_\_ DATE \_\_\_\_\_  
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES  
SITE PLAN No. \_\_\_\_\_

DIRECTOR \_\_\_\_\_ DATE \_\_\_\_\_

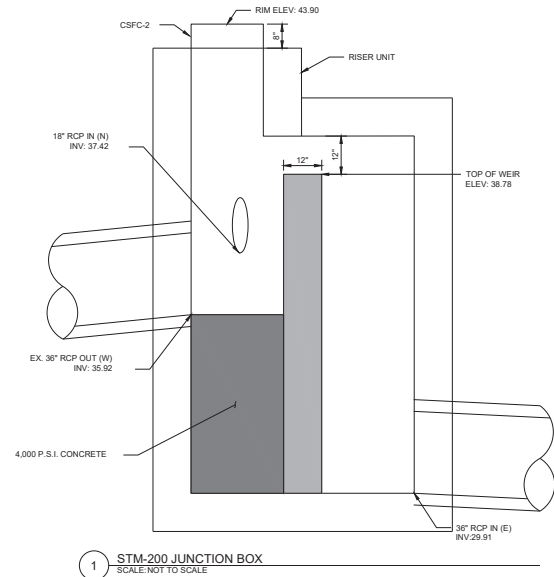
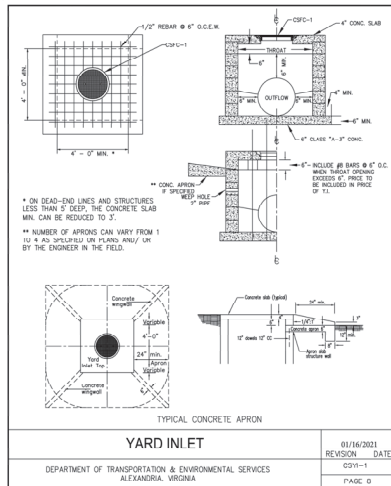
CHAIRMAN, PLANNING COMMISSION \_\_\_\_\_ DATE \_\_\_\_\_  
DATE RECORDED \_\_\_\_\_  
INSTRUMENT NO. \_\_\_\_\_ DEED BOOK NO. \_\_\_\_\_ PAGE NO. \_\_\_\_\_



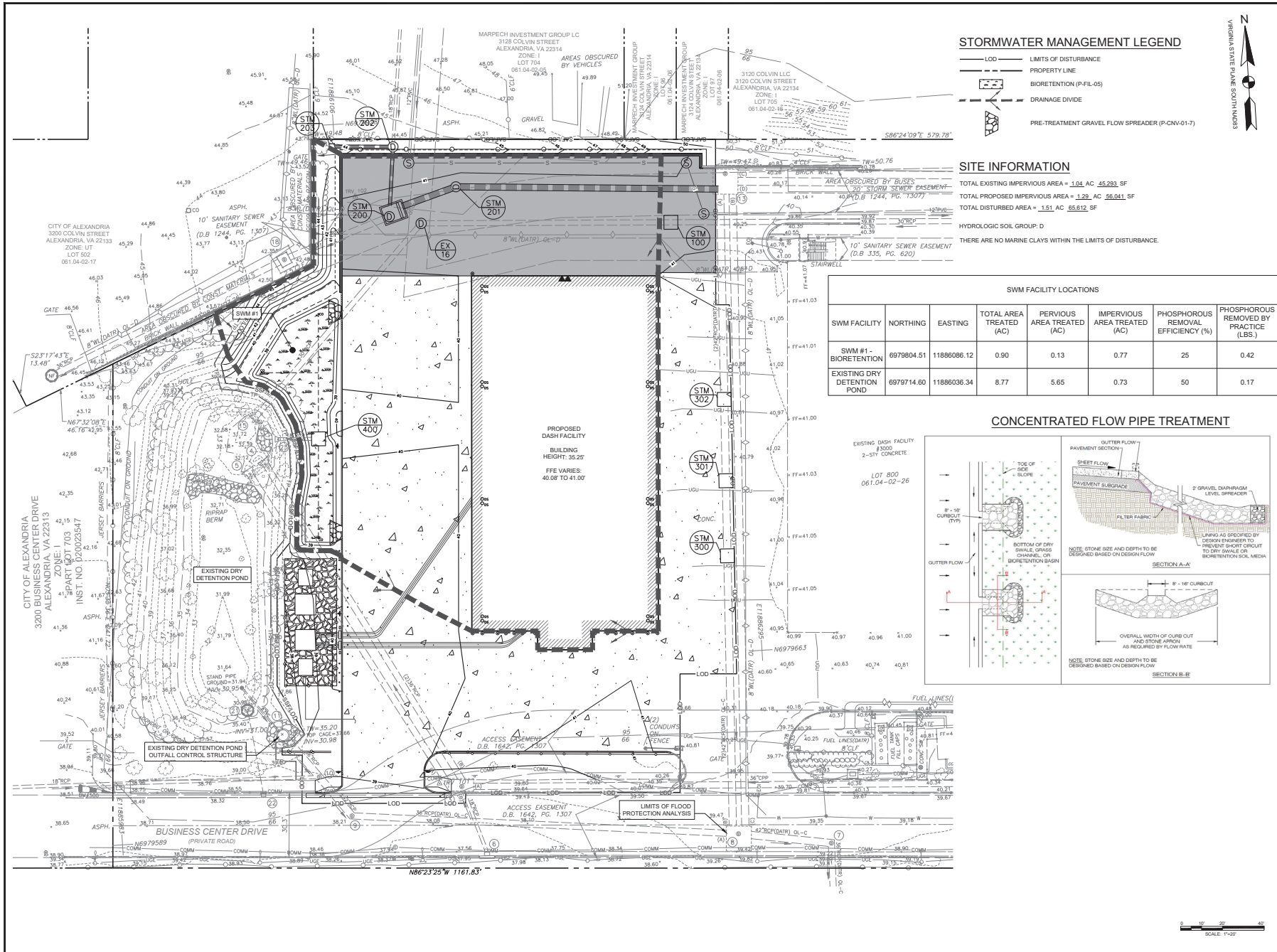




|                                 |          |            |               |            |        |            |                    |          |                        |        |        |        |          |          |          |           |  |  |  |  |  |
|---------------------------------|----------|------------|---------------|------------|--------|------------|--------------------|----------|------------------------|--------|--------|--------|----------|----------|----------|-----------|--|--|--|--|--|
| DASH Facility Expansion         |          |            |               |            |        |            |                    |          |                        |        |        |        | 04/13/25 |          | 8:18 PM  |           |  |  |  |  |  |
| STORM SEWER DESIGN COMPUTATIONS |          |            |               |            |        |            |                    |          |                        |        |        |        |          |          |          |           |  |  |  |  |  |
| FROM POINT                      | TO POINT | DRAIN AREA | RUNOFF COEFF. | CA INCREM. | ACCUM. | INLET TIME | RAINFALL INTENSITY | RUNOFF Q | INVERT ELEVATIONS (ft) | LENGTH | SLOPE  | DIA.   | n        | CAPACITY | VELOCITY | FLOW TIME |  |  |  |  |  |
|                                 |          | ACRES      | C             |            |        | MIN.       | IN./HR.            | C.F.S.   | UPPER                  | LOWER  | ft     | ft/ft  | IN.      | C.F.S.   | FPS      | SEC.      |  |  |  |  |  |
| STM203                          | STM202   | 0.54       | 0.73          | 0.30       | 0.30   | 5          | 9.00               | 3.65     | 40.70                  | 40.41  | 29.23  | 0.0099 | 18       | 0.013    | 10.48    | 5.3       |  |  |  |  |  |
| STM202                          | STM200   | 0.00       | 0.00          | 0.30       | 0.30   | 5          | 9.00               | 25.29    | 37.76                  | 37.58  | 33.53  | 0.0054 | 18       | 0.013    | 7.70     | 4.4       |  |  |  |  |  |
| EX 13                           | STM201   | 150.00     | 0.88          | 132.00     | 132.00 | 5          | 9.00               | 245.31   | 29.10                  | 29.73  | 125.73 | 0.0050 | 36       | 0.013    | 47.21    | 6.7       |  |  |  |  |  |
| STM201                          | STM200   | 0.00       | 0.00          | 132.00     | 132.00 | 5.3        | 9.00               | 245.31   | 29.73                  | 29.88  | 30.45  | 0.0049 | 36       | 0.013    | 46.81    | 6.6       |  |  |  |  |  |
| STM400                          | EX 23    | 0.92       | 0.83          | 0.76       | 0.76   | 5          | 9.00               | 68.37    | 34.84                  | 34.45  | 19.47  | 0.0098 | 18       | 0.013    | 10.38    | 6.2       |  |  |  |  |  |
|                                 |          |            |               |            |        |            |                    |          |                        |        |        |        |          |          |          |           |  |  |  |  |  |







### STORMWATER MANAGEMENT LEGEND

- LOD LIMITS OF DISTURBANCE
- PROPERTY LINE
- BIORETENTION (P-FIL-05)
- DRAINAGE DIVIDE
- PRE-TREATMENT GRAVEL FLOW SPREADER (P-CNV-01-7)

### SITE INFORMATION

TOTAL EXISTING IMPERVIOUS AREA = 1.04 AC 45,293 SF  
 TOTAL PROPOSED IMPERVIOUS AREA = 1.29 AC 56,041 SF  
 TOTAL DISTURBED AREA = 1.51 AC 65,612 SF

HYDROLOGIC SOIL GROUP: D  
 THERE ARE NO MARINE CLAYS WITHIN THE LIMITS OF DISTURBANCE.

### SWM FACILITY LOCATIONS

| SWM FACILITY                | NORTHING   | EASTING     | TOTAL AREA TREATED (AC) | PERVIOUS AREA TREATED (AC) | IMPERVIOUS AREA TREATED (AC) | PHOSPHOROUS REMOVAL EFFICIENCY (%) | PHOSPHOROUS REMOVED BY PRACTICE (LBS.) |
|-----------------------------|------------|-------------|-------------------------|----------------------------|------------------------------|------------------------------------|----------------------------------------|
| SWM #1- BIORETENTION        | 6979804.51 | 11886086.12 | 0.90                    | 0.13                       | 0.77                         | 25                                 | 0.42                                   |
| EXISTING DRY DETENTION POND | 6979714.60 | 11886036.34 | 8.77                    | 5.65                       | 0.73                         | 50                                 | 0.17                                   |

### CONCENTRATED FLOW PIPE TREATMENT

NOTE: STONE SIZE AND DEPTH TO BE DESIGNED BASED ON DESIGN FLOW

DESIGN LANDSCAPE ARCHITECT & DESIGN ENGINEER

**AMT**

A. MARCHEL TONAG AND ASSOCIATES, INC.

3000 CENTRAL DRIVE, SUITE 200  
 ALEXANDRIA, VA 22304  
 PHONE: (703) 751-2545  
 FAX: (703) 751-2546  
 EMAIL: OSHORNSHAW@AMT.COM

PROJ. MANAGER: CHELSEA BISHOP, P.E. EMAIL: CBISHOP@AMT.COM

DATE: 06/22/2025

SCALE: 1"=20'

REVISION APPROVED BY

| NO. | DESCRIPTION | DATE | APPROVED |
|-----|-------------|------|----------|
| 1   |             |      |          |

**CITY OF ALEXANDRIA**

**DASH FACILITY**

3000 BUSINESS CENTER DRIVE

ALEXANDRIA, VIRGINIA 22314

APPROVED

**SPECIAL USE PERMIT NO.**

DEPARTMENT OF PLANNING & ZONING

DIRECTOR \_\_\_\_\_ DATE \_\_\_\_\_

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES

SITE PLAN No. \_\_\_\_\_

DIRECTOR \_\_\_\_\_ DATE \_\_\_\_\_

CHAIRMAN, PLANNING COMMISSION \_\_\_\_\_ DATE \_\_\_\_\_

DATE RECORDED \_\_\_\_\_

INSTRUMENT NO. \_\_\_\_\_ DEED BOOK NO. \_\_\_\_\_ PAGE NO. \_\_\_\_\_

SHEET NAME:

**STORMWATER MANAGEMENT PLAN**



## WATER QUANTITY NARRATIVE

WATER QUANTITY COMPLIANCE FOR THE SITE IMPROVEMENTS IS BEING ACCOMPLISHED BY THE REDUCED CURVE NUMBER GENERATED BY THE PROPOSED BIORETENTION LEVEL I (P-FIL-05) AND THE VOLUME PROVIDED BY THE EXISTING DRY DETENTION POND. THE SITE SHALL PROVIDE STORMWATER DETENTION CAPACITY SUFFICIENT TO PASS THE CITY OF ALEXANDRIA'S WATER QUALITY VOLUME DEFAULT (WQVD) AND THE ALLOWABLE 1-YEAR AND 10-YEAR PEAK FLOW RATES FOLLOWING THE LAND-DISTURBING ACTIVITIES BY UTILIZING ENERGY BALANCE METHODOLOGY PER CITY CODE SECTION 13-109(F)(1)(c) AND 13-109(F)(2)(b)(i) CHANNEL PROTECTION AND FLOOD PROTECTION, RESPECTFULLY.

THE TOTAL APPLICABLE AREA (LIMITS OF DISTURBANCE) IS 1.51 ACRES (65,612 SF).

THIS SPREADSHEET UTILIZES THE VIRGINIA RUNOFF REDUCTION METHOD ADJUSTED CURVE NUMBERS FROM THE CHANNEL AND FLOOD PROTECTION TAB, SHOWN ON SHEET C-704. UTILIZING ENERGY BALANCE METHODOLOGY, THE PRE- AND POST-DEVELOPED RUNOFF COMPUTATIONS FOR THE LIMITS OF DISTURBANCE ARE DEVELOPED TO ESTABLISH ALLOWABLE RELEASE RATES FOR THE DISTURBED AREA WITHIN THE OUTFALL AS WELL AS MINIMUM REQUIRED DETENTION. FOR THE 1-YEAR AND 10-YEAR EVENTS, THE POST DEVELOPED PEAK FLOWS ARE THE SAME AS THE PRE-DEVELOPED PEAK FLOW RATE, BASED ON THE ENERGY BALANCE SPREADSHEET (THIS SHEET) AND VIRGINIA STORMWATER MANAGEMENT HANDBOOK VERSION 1.1, APPENDIX A.5, 3.323 CF MUST BE PROVIDED TO MEET BOTH CHANNEL PROTECTION AND FLOOD CONTROL REQUIREMENTS.

THE CITY OF ALEXANDRIA'S WQVD IS COMPUTED BELOW:

POST-DEVELOPED IMPERVIOUS AREA WITHIN LOD = 56,042 SF  
WQVD =  $1/2' \times 56,042 \text{ SF} = 2,335 \text{ CF}$

SINCE THE FLOOD PROTECTION REQUIREMENT IS GREATER THAN THE WQVD, 3,323 IS THE TARGET FOR QUANTITY CONTROL.

THE TOTAL VOLUME PROVIDED BY THE EXISTING DRY DETENTION POND IS 34,871 CF. SINCE THIS VOLUME IS GREATER THAN 3,323 CF, BOTH THE WATER QUANTITY AND THE CITY OF ALEXANDRIA'S WQVD REQUIREMENT ARE SATISFIED.

ADDITIONAL STORAGE WILL BE PROVIDED IN THE BIORETENTION MEDIA AND STONE VOIDS. THEREFORE, THE WATER QUANTITY REQUIREMENT FOR FLOOD CONTROL IS SATISFIED.

PER FEMA FLOODPLAIN MAP 5155190037F, DATED MAY 31, 2022, THIS SITE IS WITHIN THE FLOODPLAIN IN ZONE X.

THERE IS A NO RESOURCE PROTECTION AREA LOCATED ON THE SUBJECT PROPERTY.

## SWM Water Quantity Energy Balance Worksheet

| SITE AREA (acre)       | 1-year |                 | 10-year |                 |
|------------------------|--------|-----------------|---------|-----------------|
|                        | PRE    | POST (adjusted) | PRE     | POST (adjusted) |
| P                      | 2.70   | 2.70            | 5.20    | 5.20            |
| CN                     | 92     | 92              | 92      | 92              |
| S=1000/CN-10           | 0.87   | 0.75            | 0.87    | 0.75            |
| Q <sub>pre</sub>       | 0.17   | 0.15            | 0.17    | 0.15            |
| RV=(P-0.25)/(P-0.25)+S | 1.88   | 1.97            | 4.28    | 4.39            |

$$Q_{\text{Post Development}} \leq I.F. * (Q_{\text{pre-development}} * RV_{\text{pre-development}} / RV_{\text{Development}})$$

| I.F.                                                   | 0.8  |
|--------------------------------------------------------|------|
| CHANNEL PROTECTION (1-YEAR)                            |      |
| Q <sub>pre-development</sub>                           | 3.45 |
| Q <sub>Post Development</sub>                          | 3.59 |
| RV <sub>Post Development</sub> (with runoff reduction) | 1.95 |
| Allowable                                              | 3.32 |

|                                         |      |
|-----------------------------------------|------|
| Allowable/Q <sub>Post Development</sub> | 0.93 |
| V <sub>s</sub> /V <sub>r</sub>          | 0.14 |
| V <sub>s</sub>                          | 0.28 |
| Storage required (cf)                   | 1539 |

Fig 11.7 of DEQ Manual

| FLOOD CONTROL (10-YEAR)                                |      |
|--------------------------------------------------------|------|
| Q <sub>pre-development</sub>                           | 7.58 |
| Q <sub>Post Development</sub>                          | 7.71 |
| RV <sub>Post Development</sub> (with runoff reduction) | 4.41 |
| Allowable                                              | 7.36 |

|                                         |      |
|-----------------------------------------|------|
| Allowable/Q <sub>Post Development</sub> | 0.96 |
| V <sub>s</sub> /V <sub>r</sub>          | 0.14 |
| V <sub>s</sub>                          | 0.61 |
| Storage required (cf)                   | 3323 |

## OUTFALL NARRATIVE

A MAJORITY OF THE 9.21 ACRE LOT AND PORTIONS OF BUSINESS CENTER DRIVE ARE GENERALLY COLLECTED IN A SERIES OF STORM DRAINS AND CONVEYED FROM EAST TO WEST INTO THE EXISTING ON-SITE DETENTION POND. THE POND WAS DESIGNED TO PROVIDE DETENTION FOR THE SITE'S ULTIMATE DEVELOPMENT INCLUDING THIS PROJECT. A CONTROL STRUCTURE FOR THE POND RELEASES RUNOFF INTO A PIPED SYSTEM WHICH OUTFALLS TO THE SOUTH INTO CAMERON RUN.

REFER TO SHEET C-703 FOR POND ROUTING CALCULATIONS TO DEMONSTRATE THE EXISTING POND IS ADEQUATE TO PROVIDE QUANTITY CONTROL FOR THIS PROJECT.

CHANNEL AND FLOOD PROTECTION REQUIREMENTS ARE BEING MET ON-SITE, AS DESCRIBED BELOW.

## CHANNEL PROTECTION ANALYSIS

PER THE CITY OF ALEXANDRIA ZONING ORDINANCE SECTION 13-109(F)(1)(c), THE STORMWATER CONVEYANCE SHALL CONVEY THE ONE-YEAR 24-HOUR STORM PER:  
 $Q_{\text{dev}} \leq I.F. * (Q_{\text{pre-dev}} * RV_{\text{pre-dev}} / RV_{\text{dev}})$

THE SWM WATER QUANTITY ENERGY BALANCE WORKSHEET ON THIS SHEET CALCULATES A CN OF 92 FOR THE LIMITS OF DISTURBANCE. PER THE HYDROCAD REPORT ON C-703, THE 1-YEAR PRE-DEVELOPED RELEASE RATE FROM THE POND IS 31.00 CFS. IN THE POST-DEVELOPED CONDITION, THE 1-YEAR PEAK RELEASE RATE IS 30.86 CFS. THEREFORE THE CHANNEL PROTECTION REQUIREMENT IS SATISFIED.

PER THE CITY OF ALEXANDRIA ZONING ORDINANCE SECTION 13-109(F)(1)(d), SINCE 13-109(F)(1)(C) IS USED TO DEMONSTRATE COMPLIANCE WITH THE CHANNEL PROTECTION CRITERIA, THE LIMITS OF ANALYSIS IS ALSO SATISFIED.

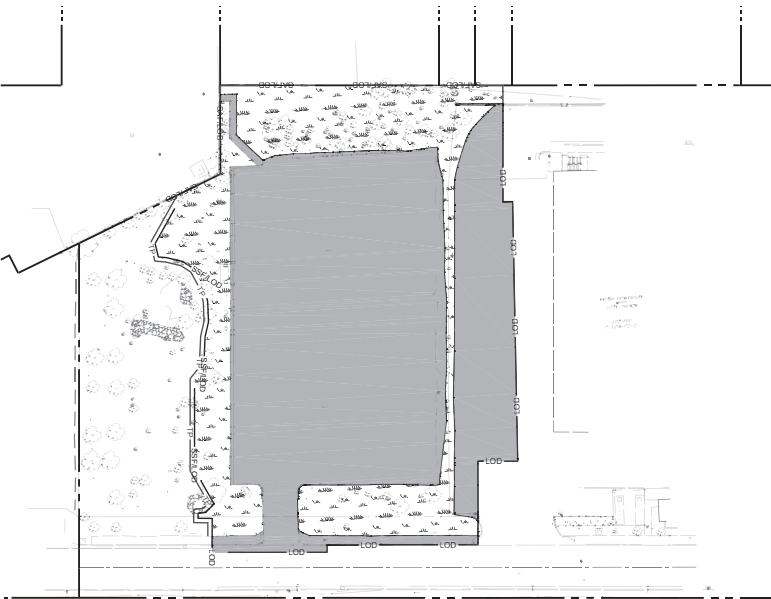
## FLOOD PROTECTION ANALYSIS

PER THE CITY OF ALEXANDRIA ZONING ORDINANCE SECTION 13-109(F)(2)(b)(ii), SINCE THIS SITE CURRENTLY EXPERIENCES LOCALIZED FLOODING, THE POST-DEVELOPED PEAK FLOW RATE FOR THE 10-YEAR 24-HOUR STORM EVENT SHALL BE LESS THAN THE PRE-DEVELOPED PEAK FLOW RATE FOR THE 10-YEAR 24-HOUR STORM EVENT.

THE SWM WATER QUANTITY ENERGY BALANCE WORKSHEET ON THIS SHEET CALCULATES A CN OF 92 FOR THE LIMITS OF DISTURBANCE. PER THE HYDROCAD REPORT ON C-703, THE 10-YEAR PRE-DEVELOPED RELEASE RATE FROM THE POND IS 63.39 CFS. IN THE POST-DEVELOPED CONDITION, THE 10-YEAR PEAK RELEASE RATE IS 63.10 CFS. THEREFORE THE FLOOD CONTROL REQUIREMENT IS SATISFIED.

PER THE CITY OF ALEXANDRIA ZONING ORDINANCE SECTION 13-109(F)(2)(c)(i), THE LIMITS OF ANALYSIS SHALL EXTEND TO A POINT WHERE THE SITE'S CONTRIBUTING DRAINAGE AREA IS LESS THAN OR EQUAL TO 1.0% OF THE TOTAL WATERSHED AREA DRAINING TO A POINT OF ANALYSIS.

THE SITE DRAINAGE AREA IS 1.51 AC AND THE TOTAL WATERSHED DRAINAGE AREA TO THE POINT OF ANALYSIS IS 161 ACRES. THEREFORE THE SITE AREA IS LESS THAN 1.0% OF THE TOTAL WATERSHED AREA AT EX. STORM STRUCTURE #8.

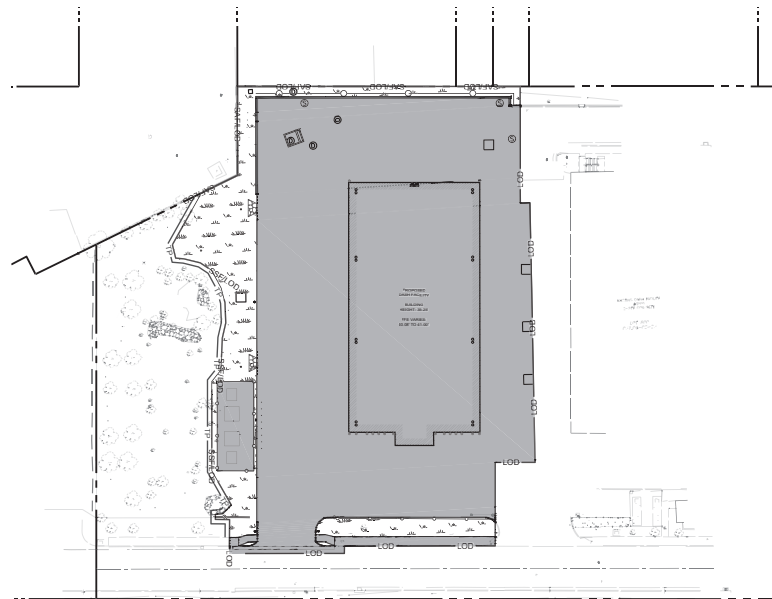


PRE-DEVELOPMENT IMPERVIOUS AREA MAP

SCALE: 1"=40'

PRE-DEVELOPMENT IMPERVIOUS AREA = 45,293 SF (1.04 AC)

PRE-DEVELOPMENT MANAGED TURF AREA = 20,319 SF (0.47 AC)



POST-DEVELOPMENT IMPERVIOUS AREA MAP

SCALE: 1"=40'

POST-DEVELOPMENT IMPERVIOUS AREA = 56,041 SF (1.29 AC)

POST-DEVELOPMENT MANAGED TURF AREA = 9,571 SF (0.22 AC)

0 20' 40' 80'  
SCALE: 1"=40'

DESIGN LANDSCAPE ARCHITECT & DESIGN ENGINEER

**AMT**  
A. MASON TAYLOR AND ASSOCIATES, INC.  
3000 CENTRE DRIVE, SUITE 200  
ALEXANDRIA, VA 22304  
PHONE: 703.746.1234  
FAX: 703.746.1235  
WWW.AMT-VA.COM  
PROJ. MANAGER: CHELSEA M. BISHOP, P.E., ENVL. ENGINEERING/NOI

SCALE: 1"=40'

DATE: 02/21/2025

SHOWN: DML, E.C.

| NO. | DESCRIPTION | DATE | APPROVED | DATE |
|-----|-------------|------|----------|------|
| 1   | REL. ST.    |      |          |      |
| 2   | REL. ST.    |      |          |      |
| 3   | REL. ST.    |      |          |      |
| 4   | REL. ST.    |      |          |      |
| 5   | REL. ST.    |      |          |      |
| 6   | REL. ST.    |      |          |      |
| 7   | REL. ST.    |      |          |      |
| 8   | REL. ST.    |      |          |      |
| 9   | REL. ST.    |      |          |      |
| 10  | REL. ST.    |      |          |      |

**CITY OF ALEXANDRIA**  
**DASH FACILITY**  
3000 BUSINESS CENTER DRIVE  
ALEXANDRIA, VIRGINIA 22314

SHEET NAME:  
STORMWATER MANAGEMENT QUANTITY ANALYSIS

APPROVED  
SPECIAL USE PERMIT NO. \_\_\_\_\_  
DEPARTMENT OF PLANNING & ZONING

DIRECTOR \_\_\_\_\_ DATE \_\_\_\_\_  
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES  
SITE PLAN NO. \_\_\_\_\_

DIRECTOR \_\_\_\_\_ DATE \_\_\_\_\_

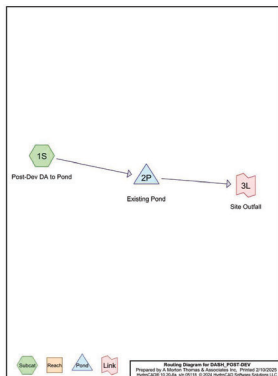
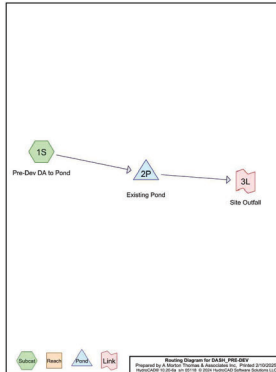
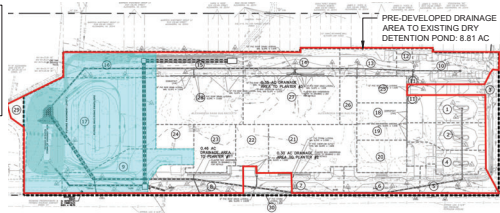
CHAIRMAN, PLANNING COMMISSION \_\_\_\_\_ DATE \_\_\_\_\_  
DATE RECORDED \_\_\_\_\_

INSTRUMENT NO. \_\_\_\_\_ DEED BOOK NO. \_\_\_\_\_ PAGE NO. \_\_\_\_\_

SHEET NO: C-702

36 OF 94

DRAINAGE AREAS 9, 16, AND 17  
CHANGE FROM PRE- TO  
POST-DEVELOPMENT. THE  
PROJECT LOD IS WITHIN THIS  
ZONE. IN THE POST-DEVELOPMENT  
CALCULATIONS, THE REDUCED CN  
APPLICABLE TO THE LOD IS  
WEIGHTED WITH THE REMAINING  
AREA TO GENERATE THE CN USED  
IN HYDROCAD FOR 'AREA 9, 16,  
AND 17'.



PRE-DEVELOPMENT:

[illegible]

DASH\_PRE-Dev

Prepared by A Morton Thomas & Associates Inc  
hyperDash 10.20.06, rev 01/10 © 2010 Morton Thomas Software Solutions LLC

Printed 5/22/2010  
Page 6

Subcatchment 10: Pre-Dev DA to Pond

Hydrograph

10 min

Type II 24-hr  
1-year Rainfall=2.70"  
Runoff Area=0.610 ac  
Runoff Volume=1.492 af  
Runoff Depth=2.03"  
Tc=0.0 min  
CN=06

Discharge (cfs)

Time (min)

POST-DEVELOPMENT:

**DASH POST-DEV**      Page 2 of 49 - Page Number=20      Printed: 02/02/2016

Designed by A Morison Thomas & Associates Inc  
 10000 Highway 100, Suite 100, Houston, Texas 77036-1000  
 Phone: 281.466.1000      Fax: 281.466.1001      Email: info@dashinc.com

**Summary for Pond SP: Existing Pond**

[44] Hint: Outlet device is below defined storage

Inflow Area = 8.772 ac, 35.84% Impervious, Inflow Depth = 2.03' for 1 year event  
 Inflow Rate = 1.11 cfs/ft, 1.11 cfs/ft, Inflow Volume = 1.448 ac-ft  
 Peak Inflow = 1.11 cfs/ft, 1.11 cfs/ft, Peak Inflow Rate = 1.11 cfs/ft, 1.11 cfs/ft, 1.11 cfs/ft  
 Primary = 2.226 ac-ft, 1.11 cfs/ft, Inflow Volume = 1.226 ac-ft  
 Paved to Land = 1.11 cfs/ft, 1.11 cfs/ft, Inflow Volume = 1.226 ac-ft

Routing by State method, Time Spacing = 0.50 hr, 0.50 hr, 0.50 hr  
 Peak Inflow = 1.11 cfs/ft, 1.11 cfs/ft, Peak Inflow Rate = 1.11 cfs/ft, 1.11 cfs/ft, 1.11 cfs/ft

Plug-Flow Method, Time = 79.8 min, 79.8 min, 79.8 min, 79.8 min, 79.8 min  
 Coefficient of Mass Loss = 0.20 min (77.3% at 1.242 ft of effluent)

| Volume    | Inflow    | Outflow   | Storage   | Storage Description                |
|-----------|-----------|-----------|-----------|------------------------------------|
| 31.00     | 31.00     | 31.00     | 0.00      | 1.242 ft of effluent (below Ponds) |
| Elevation | Surf Area | Surf Area | Surf Area | Cur. Surface                       |
| (ft)      | (sq ft)   | (sq ft)   | (sq ft)   | (sq ft)                            |
| 1.00      | 3.042     | 1.887     | 2.254     | 2.254                              |
| 1.50      | 3.042     | 1.887     | 2.254     | 2.254                              |
| 2.00      | 3.042     | 1.887     | 2.254     | 2.254                              |
| 2.50      | 6.090     | 5.241     | 11.306    | 11.306                             |
| 3.00      | 6.090     | 5.241     | 11.306    | 11.306                             |
| 3.50      | 6.090     | 5.241     | 11.306    | 11.306                             |
| 4.00      | 6.090     | 5.241     | 11.306    | 11.306                             |
| 4.50      | 6.090     | 5.241     | 11.306    | 11.306                             |
| 5.00      | 6.090     | 5.241     | 11.306    | 11.306                             |
| 5.50      | 6.090     | 5.241     | 11.306    | 11.306                             |
| 6.00      | 6.090     | 5.241     | 11.306    | 11.306                             |
| 6.50      | 6.090     | 5.241     | 11.306    | 11.306                             |
| 7.00      | 6.090     | 5.241     | 11.306    | 11.306                             |
| 7.50      | 6.090     | 5.241     | 11.306    | 11.306                             |
| 8.00      | 6.090     | 5.241     | 11.306    | 11.306                             |
| 8.50      | 6.090     | 5.241     | 11.306    | 11.306                             |
| 9.00      | 6.090     | 5.241     | 11.306    | 11.306                             |
| 9.50      | 6.090     | 5.241     | 11.306    | 11.306                             |
| 10.00     | 6.090     | 5.241     | 11.306    | 11.306                             |
| 10.50     | 6.090     | 5.241     | 11.306    | 11.306                             |
| 11.00     | 6.090     | 5.241     | 11.306    | 11.306                             |
| 11.50     | 6.090     | 5.241     | 11.306    | 11.306                             |
| 12.00     | 6.090     | 5.241     | 11.306    | 11.306                             |
| 12.50     | 6.090     | 5.241     | 11.306    | 11.306                             |
| 13.00     | 6.090     | 5.241     | 11.306    | 11.306                             |
| 13.50     | 6.090     | 5.241     | 11.306    | 11.306                             |
| 14.00     | 6.090     | 5.241     | 11.306    | 11.306                             |
| 14.50     | 6.090     | 5.241     | 11.306    | 11.306                             |
| 15.00     | 6.090     | 5.241     | 11.306    | 11.306                             |
| 15.50     | 6.090     | 5.241     | 11.306    | 11.306                             |
| 16.00     | 6.090     | 5.241     | 11.306    | 11.306                             |
| 16.50     | 6.090     | 5.241     | 11.306    | 11.306                             |
| 17.00     | 6.090     | 5.241     | 11.306    | 11.306                             |
| 17.50     | 6.090     | 5.241     | 11.306    | 11.306                             |
| 18.00     | 6.090     | 5.241     | 11.306    | 11.306                             |
| 18.50     | 6.090     | 5.241     | 11.306    | 11.306                             |
| 19.00     | 6.090     | 5.241     | 11.306    | 11.306                             |
| 19.50     | 6.090     | 5.241     | 11.306    | 11.306                             |
| 20.00     | 6.090     | 5.241     | 11.306    | 11.306                             |
| 20.50     | 6.090     | 5.241     | 11.306    | 11.306                             |
| 21.00     | 6.090     | 5.241     | 11.306    | 11.306                             |
| 21.50     | 6.090     | 5.241     | 11.306    | 11.306                             |
| 22.00     | 6.090     | 5.241     | 11.306    | 11.306                             |
| 22.50     | 6.090     | 5.241     | 11.306    | 11.306                             |
| 23.00     | 6.090     | 5.241     | 11.306    | 11.306                             |
| 23.50     | 6.090     | 5.241     | 11.306    | 11.306                             |
| 24.00     | 6.090     | 5.241     | 11.306    | 11.306                             |
| 24.50     | 6.090     | 5.241     | 11.306    | 11.306                             |
| 25.00     | 6.090     | 5.241     | 11.306    | 11.306                             |
| 25.50     | 6.090     | 5.241     | 11.306    | 11.306                             |
| 26.00     | 6.090     | 5.241     | 11.306    | 11.306                             |
| 26.50     | 6.090     | 5.241     | 11.306    | 11.                                |

**NASH.POST.DJV** Time 3/24/8r 1-year Rainfall=2.70  
Prepared by A Morton Thomas & Associates Inc Printed 5/22/2020  
[thomas@nash-software.com](mailto:thomas@nash-software.com) 917.918.9124 [www.nash-software.com](http://www.nash-software.com) Software Solutions LLC Page 6

**Subcatchment 15: Post-Div DA to Pond**

Type II 24-hr  
1-year Rainfall=2.70"  
Runoff Area=8.770 ac  
Runoff Volume=1.485 af  
Runoff Depth=2.03"  
Tc=0.0 min  
CN=95

PRE-DEVELOPMENT:

[illegible]

**DASH\_PRE.DEV** Type II 24-in 10-year Rainfall=  
Prepared by A Morton Thomas & Associates Inc Printed 5/22/2016  
hypermORR 10/25/06 40-10115 10/20/2016 Software Solutions LLC Page

**Subcatchment 15: Pre-Dev DA to Pond**

15-Pre-Dev

**Type II 24-in**  
**10-year Rainfall=5.20"**  
**Runoff Area=6.810 ac**  
**Runoff Volume=2.209 af**  
**Runoff Depth=4.37"**  
**Tc=0.0 min**  
**CN=95**

POST-DEVELOPMENT:

[illegible]

NAME: PONDYEV  
 Prepared by: A. Horton Thomas & Associates Inc.  
 Project: C&E 10-2018 - 10-2018 Highway Software Solutions LLC  
 Type II 24-hr 10-year Rainfall  
 Printed: 5/22/2020  
 Page: 1

**Subcatchment 15: Post-Dev DA to Pond**

Hydrograph

Type II 24-hr  
 10-year Rainfall=5.20"  
 Runoff Area=8.770 ac  
 Runoff Volume=3.195 af  
 Runoff Depth=4.37"  
 Tc=0.0 min  
 CN=95

#### Stage-Area-Storage for Pond 2P: Existing Dry Detention Pond

| Stage-A Average Storage for Pond D3: Existing Dry Detention Pond |                 |                   |                     |                 |                   |
|------------------------------------------------------------------|-----------------|-------------------|---------------------|-----------------|-------------------|
| Elimination<br>Rate                                              | Surface<br>Area | Storage<br>Volume | Elimination<br>Rate | Surface<br>Area | Storage<br>Volume |
| 1:10                                                             | 2,175           | 76                | 1:10                | 2,175           | 76                |
| 1:15                                                             | 76              | 3                 | 1:15                | 76              | 3                 |
| 1:20                                                             | 267             | 8                 | 1:20                | 267             | 8                 |
| 1:25                                                             | 486             | 14                | 1:25                | 486             | 14                |
| 1:30                                                             | 687             | 20                | 1:30                | 687             | 20                |
| 1:35                                                             | 867             | 26                | 1:35                | 867             | 26                |
| 1:40                                                             | 1,027           | 31                | 1:40                | 1,027           | 31                |
| 1:45                                                             | 1,178           | 36                | 1:45                | 1,178           | 36                |
| 1:50                                                             | 1,321           | 41                | 1:50                | 1,321           | 41                |
| 1:55                                                             | 1,456           | 46                | 1:55                | 1,456           | 46                |
| 2:00                                                             | 1,584           | 51                | 2:00                | 1,584           | 51                |
| 2:05                                                             | 1,706           | 56                | 2:05                | 1,706           | 56                |
| 2:10                                                             | 1,822           | 61                | 2:10                | 1,822           | 61                |
| 2:15                                                             | 1,933           | 66                | 2:15                | 1,933           | 66                |
| 2:20                                                             | 2,039           | 71                | 2:20                | 2,039           | 71                |
| 2:25                                                             | 2,141           | 76                | 2:25                | 2,141           | 76                |
| 2:30                                                             | 2,239           | 81                | 2:30                | 2,239           | 81                |
| 2:35                                                             | 2,333           | 86                | 2:35                | 2,333           | 86                |
| 2:40                                                             | 2,424           | 91                | 2:40                | 2,424           | 91                |
| 2:45                                                             | 2,511           | 96                | 2:45                | 2,511           | 96                |
| 2:50                                                             | 2,595           | 101               | 2:50                | 2,595           | 101               |
| 2:55                                                             | 2,676           | 106               | 2:55                | 2,676           | 106               |
| 3:00                                                             | 2,754           | 111               | 3:00                | 2,754           | 111               |
| 3:05                                                             | 2,829           | 116               | 3:05                | 2,829           | 116               |
| 3:10                                                             | 2,901           | 121               | 3:10                | 2,901           | 121               |
| 3:15                                                             | 2,970           | 126               | 3:15                | 2,970           | 126               |
| 3:20                                                             | 3,037           | 131               | 3:20                | 3,037           | 131               |
| 3:25                                                             | 3,101           | 136               | 3:25                | 3,101           | 136               |
| 3:30                                                             | 3,163           | 141               | 3:30                | 3,163           | 141               |
| 3:35                                                             | 3,223           | 146               | 3:35                | 3,223           | 146               |
| 3:40                                                             | 3,281           | 151               | 3:40                | 3,281           | 151               |
| 3:45                                                             | 3,337           | 156               | 3:45                | 3,337           | 156               |
| 3:50                                                             | 3,391           | 161               | 3:50                | 3,391           | 161               |
| 3:55                                                             | 3,443           | 166               | 3:55                | 3,443           | 166               |
| 4:00                                                             | 3,494           | 171               | 4:00                | 3,494           | 171               |
| 4:05                                                             | 3,543           | 176               | 4:05                | 3,543           | 176               |
| 4:10                                                             | 3,591           | 181               | 4:10                | 3,591           | 181               |
| 4:15                                                             | 3,637           | 186               | 4:15                | 3,637           | 186               |
| 4:20                                                             | 3,682           | 191               | 4:20                | 3,682           | 191               |
| 4:25                                                             | 3,726           | 196               | 4:25                | 3,726           | 196               |
| 4:30                                                             | 3,769           | 201               | 4:30                | 3,769           | 201               |
| 4:35                                                             | 3,811           | 206               | 4:35                | 3,811           | 206               |
| 4:40                                                             | 3,852           | 211               | 4:40                | 3,852           | 211               |
| 4:45                                                             | 3,892           | 216               | 4:45                | 3,892           | 216               |
| 4:50                                                             | 3,931           | 221               | 4:50                | 3,931           | 221               |
| 4:55                                                             | 3,969           | 226               | 4:55                | 3,969           | 226               |
| 5:00                                                             | 4,006           | 231               | 5:00                | 4,006           | 231               |
| 5:05                                                             | 4,042           | 236               | 5:05                | 4,042           | 236               |
| 5:10                                                             | 4,077           | 241               | 5:10                | 4,077           | 241               |
| 5:15                                                             | 4,111           | 246               | 5:15                | 4,111           | 246               |
| 5:20                                                             | 4,144           | 251               | 5:20                | 4,144           | 251               |
| 5:25                                                             | 4,176           | 256               | 5:25                | 4,176           | 256               |
| 5:30                                                             | 4,207           | 261               | 5:30                | 4,207           | 261               |
| 5:35                                                             | 4,237           | 266               | 5:35                | 4,237           | 266               |
| 5:40                                                             | 4,266           | 271               | 5:40                | 4,266           | 271               |
| 5:45                                                             | 4,294           | 276               | 5:45                | 4,294           | 276               |
| 5:50                                                             | 4,321           | 281               | 5:50                | 4,321           | 281               |
| 5:55                                                             | 4,347           | 286               | 5:55                | 4,347           | 286               |
| 6:00                                                             | 4,373           | 291               | 6:00                | 4,373           | 291               |
| 6:05                                                             | 4,398           | 296               | 6:05                | 4,398           | 296               |
| 6:10                                                             | 4,422           | 301               | 6:10                | 4,422           | 301               |
| 6:15                                                             | 4,445           | 306               | 6:15                | 4,445           | 306               |
| 6:20                                                             | 4,467           | 311               | 6:20                | 4,467           | 311               |
| 6:25                                                             | 4,488           | 316               | 6:25                | 4,488           | 316               |
| 6:30                                                             | 4,508           | 321               | 6:30                | 4,508           | 321               |
| 6:35                                                             | 4,527           | 326               | 6:35                | 4,527           | 326               |
| 6:40                                                             | 4,545           | 331               | 6:40                | 4,545           | 331               |
| 6:45                                                             | 4,562           | 336               | 6:45                | 4,562           | 336               |
| 6:50                                                             | 4,579           | 341               | 6:50                | 4,579           | 341               |
| 6:55                                                             | 4,594           | 346               | 6:55                | 4,594           | 346               |
| 7:00                                                             | 4,609           | 351               | 7:00                | 4,609           | 351               |
| 7:05                                                             | 4,623           | 356               | 7:05                | 4,623           | 356               |
| 7:10                                                             | 4,637           | 361               | 7:10                | 4,637           | 361               |
| 7:15                                                             | 4,650           | 366               | 7:15                | 4,650           | 366               |
| 7:20                                                             | 4,663           | 371               | 7:20                | 4,663           | 371               |
| 7:25                                                             | 4,675           | 376               | 7:25                | 4,675           | 376               |
| 7:30                                                             | 4,687           | 381               | 7:30                | 4,687           | 381               |
| 7:35                                                             | 4,698           | 386               | 7:35                | 4,698           | 386               |
| 7:40                                                             | 4,709           | 391               | 7:40                | 4,709           | 391               |
| 7:45                                                             | 4,719           | 396               | 7:45                | 4,719           | 396               |
| 7:50                                                             | 4,729           | 401               | 7:50                | 4,729           | 401               |
| 7:55                                                             | 4,738           | 406               | 7:55                | 4,738           | 406               |
| 8:00                                                             | 4,747           | 411               | 8:00                | 4,747           | 411               |
| 8:05                                                             | 4,756           | 416               | 8:05                | 4,756           | 416               |
| 8:10                                                             | 4,764           | 421               | 8:10                | 4,764           | 421               |
| 8:15                                                             | 4,772           | 426               | 8:15                | 4,772           | 426               |
| 8:20                                                             | 4,780           | 431               | 8:20                | 4,780           | 431               |
| 8:25                                                             | 4,787           | 436               | 8:25                | 4,787           | 436               |
| 8:30                                                             | 4,795           | 441               | 8:30                | 4,795           | 441               |
| 8:35                                                             | 4,802           | 446               | 8:35                | 4,802           | 446               |
| 8:40                                                             | 4,809           | 451               | 8:40                | 4,809           | 451               |
| 8:45                                                             | 4,816           | 456               | 8:45                | 4,816           | 456               |
| 8:50                                                             | 4,822           | 461               | 8:50                | 4,822           | 461               |
| 8:55                                                             | 4,829           | 466               | 8:55                | 4,829           | 466               |
| 9:00                                                             | 4,835           | 471               | 9:00                | 4,835           | 471               |
| 9:05                                                             | 4,841           | 476               | 9:05                | 4,841           | 476               |
| 9:10                                                             | 4,847           | 481               | 9:10                | 4,847           | 481               |
| 9:15                                                             | 4,852           | 486               | 9:15                | 4,852           | 486               |
| 9:20                                                             | 4,858           | 491               | 9:20                | 4,858           | 491               |
| 9:25                                                             | 4,863           | 496               | 9:25                | 4,863           | 496               |
| 9:30                                                             | 4,868           | 501               | 9:30                | 4,868           | 501               |
| 9:35                                                             | 4,873           | 506               | 9:35                | 4,873           | 506               |
| 9:40                                                             | 4,878           | 511               | 9:40                | 4,878           | 511               |
| 9:45                                                             | 4,883           | 516               | 9:45                | 4,883           | 516               |
| 9:50                                                             | 4,887           | 521               | 9:50                | 4,887           | 521               |
| 9:55                                                             | 4,892           | 526               | 9:55                | 4,892           | 526               |
| 10:00                                                            | 4,896           | 531               | 10:00               | 4,896           | 531               |
| 10:05                                                            | 4,900           | 536               | 10:05               | 4,900           | 536               |
| 10:10                                                            | 4,904           | 541               | 10:10               | 4,904           | 541               |
| 10:15                                                            | 4,908           | 546               | 10:15               | 4,908           | 546               |
| 10:20                                                            | 4,912           | 551               | 10:20               | 4,912           | 551               |
| 10:25                                                            | 4,916           | 556               | 10:25               | 4,916           | 556               |
| 10:30                                                            | 4,919           | 561               | 10:30               | 4,919           | 561               |
| 10:35                                                            | 4,923           | 566               | 10:35               | 4,923           | 566               |
| 10:40                                                            | 4,926           | 571               | 10:40               | 4,926           | 571               |
| 10:45                                                            | 4,929           | 576               | 10:45               | 4,929           | 576               |
| 10:50                                                            | 4,932           | 581               | 10:50               | 4,932           | 581               |
| 10:55                                                            | 4,935           | 586               | 10:55               | 4,935           | 586               |
| 11:00                                                            | 4,938           | 591               | 11:00               | 4,938           | 591               |
| 11:05                                                            | 4,941           | 596               | 11:05               | 4,941           | 596               |
| 11:10                                                            | 4,943           | 601               | 11:10               | 4,943           | 601               |
| 11:15                                                            | 4,946           | 606               | 11:15               | 4,946           | 606               |
| 11:20                                                            | 4,948           | 611               | 11:20               | 4,948           | 611               |
| 11:25                                                            | 4,950           | 616               | 11:25               | 4,950           | 616               |
| 11:30                                                            | 4,952           | 621               | 11:30               | 4,952           | 621               |
| 11:35                                                            | 4,954           | 626               | 11:35               | 4,954           | 626               |
| 11:40                                                            | 4,956           | 631               | 11:40               | 4,956           | 631               |
| 11:45                                                            | 4,958           | 636               | 11:45               | 4,958           | 636               |
| 11:50                                                            | 4,959           | 641               | 11:50               | 4,959           | 641               |
| 11:55                                                            | 4,961           | 646               | 11:55               | 4,961           | 646               |
| 12:00                                                            | 4,962           | 651               | 12:00               | 4,962           | 651               |
| 12:05                                                            | 4,964           | 656               | 12:05               | 4,964           | 656               |
| 12:10                                                            | 4,965           | 661               | 12:10               | 4,965           | 661               |
| 12:15                                                            | 4,966           | 666               | 12:15               | 4,966           | 666               |
| 12:20                                                            | 4,967           | 671               | 12:20               | 4,967           | 671               |
| 12:25                                                            | 4,968           | 676               | 12:25               | 4,968           | 676               |
| 12:30                                                            | 4,969           | 681               | 12:30               | 4,969           | 681               |
| 12:35                                                            | 4,969           | 686               | 12:35               | 4,969           | 686               |
| 12:40                                                            | 4,970           | 691               | 12:40               | 4,970           | 691               |
| 12:45                                                            | 4,970           | 696               | 12:45               | 4,970           | 696               |
| 12:50                                                            | 4,971           | 701               | 12:50               | 4,971           | 701               |
| 12:55                                                            | 4,971           | 706               | 12:55               | 4,971           | 706               |
| 13:00                                                            | 4,972           | 711               | 13:00               | 4,972           | 711               |
| 13:05                                                            | 4,972           | 716               | 13:05               | 4,972           | 716               |
| 13:10                                                            | 4,972           | 721               | 13:10               | 4,972           | 721               |
| 13:15                                                            | 4,973           | 726               | 13:15               | 4,973           | 726               |
| 13:20                                                            | 4,973           | 731               | 13:20               | 4,973           | 731               |
| 13:25                                                            | 4,973           | 736               | 13:25               | 4,973           | 736               |
| 13:30                                                            | 4,974           | 741               | 13:30               | 4,974           | 741               |
| 13:35                                                            | 4,974           | 746               | 13:35               | 4,974           | 746               |
| 13:40                                                            | 4,974           | 751               | 13:40               | 4,974           | 751               |
| 13:45                                                            | 4,975           | 756               | 13:45               | 4,975           | 756               |
| 13:50                                                            | 4,975           | 761               | 13:50               | 4,975           | 761               |
| 13:55                                                            | 4,975           | 766               | 13:55               | 4,975           | 766               |
| 14:00                                                            | 4,976           | 771               | 14:00               | 4,976           | 771               |
| 14:05                                                            | 4,976           | 776               | 14:05               | 4,976           | 776               |
| 14:10                                                            | 4,976           | 781               | 14:10               | 4,976           | 781               |
| 14:15                                                            | 4,977           | 786               | 14:15               | 4,977           | 786               |
| 14:20                                                            | 4,977           | 791               | 14:20               | 4,977           | 791               |
| 14:25                                                            | 4,977           | 796               | 14:25               | 4,977           | 796               |
| 14:30                                                            | 4,978           | 801               | 14:30               | 4,978           | 801               |
| 14:35                                                            | 4,978           | 806               | 14:35               | 4,978           | 806               |
| 14:40                                                            | 4,978           | 811               | 14:40               | 4,978           | 811               |
| 14:45                                                            | 4,979           | 816               | 14:45               | 4,979           | 816               |
| 14:50                                                            | 4,979           | 821               | 14:50               | 4,979           | 821               |
| 14:55                                                            | 4,979           | 826               | 14:55               | 4,979           | 826               |
| 15:00                                                            | 4,980           | 831               | 15:00               | 4,980           | 831               |
| 15:05                                                            | 4,980           | 836               | 15:05               | 4,980           | 836               |
| 15:10                                                            | 4,980           | 841               | 15:10               | 4,980           | 841               |
| 15:15                                                            | 4,981           | 846               | 15:15               | 4,981           | 846               |
| 15:20                                                            | 4,981           | 851               | 15:20               | 4,981           | 851               |
| 15:25                                                            | 4,981           | 856               | 15:25               | 4,981           | 856               |
| 15:30                                                            | 4,982           | 861               | 15:30               | 4,982           | 861               |
| 15:35                                                            | 4,982           | 866               | 15:35               | 4,982           | 866               |
| 15:40                                                            | 4,982           | 871               | 15:40               | 4,982           | 871               |
| 15:45                                                            | 4,983           | 876               | 15:45               | 4,983           | 876               |
| 15:50                                                            | 4,983           | 881               | 15:50               | 4,983           | 881               |
| 15:55                                                            | 4,983           | 886               | 15:55               | 4,983           | 886               |
| 16:00                                                            | 4,984           | 891               | 16:00               | 4,984           | 891               |
| 16:05                                                            | 4,984           | 896               | 16:05               | 4,984           | 896               |
| 16:10                                                            | 4,984           | 901               | 16:10               | 4,984           | 901               |
| 16:15                                                            | 4,985           | 906               | 16:15               | 4,985           | 906               |
| 16:20                                                            | 4,985           | 911               | 16:20               | 4,985           | 911               |
| 16:25                                                            | 4,985           | 916               | 16:25               | 4,985           | 916               |
| 16:30                                                            | 4,986           | 921               | 16:30               | 4,986           | 921               |
| 16:35                                                            | 4,986           | 926               | 16:35               | 4,986           | 926               |
| 16:40                                                            | 4,986           | 931               | 16:40               | 4,986           | 931               |
| 16:45                                                            | 4,987           | 936               | 16:45               | 4,987           | 936               |
| 16:50                                                            | 4,987           | 941               | 16:50               | 4,987           | 941               |
| 16:55                                                            | 4,987           | 946               | 16:55               | 4,987           | 946               |
| 17:00                                                            | 4,988           | 951               | 17:00               | 4,988           | 951               |
| 17:05                                                            | 4,988           | 956               | 17:05               | 4,988           | 956               |
| 17:10                                                            | 4,988           | 961               | 17:10               | 4,988           | 961               |
| 17:15                                                            | 4,989           | 966               | 17:15               | 4,989           | 966               |
| 17:20                                                            | 4,989           | 971               | 17:20               | 4,989           | 971               |
| 17:25                                                            | 4,989           | 976               | 17:25               | 4,989           | 976               |
| 17:30                                                            | 4,990           | 981               | 17:30               | 4,990           | 981               |
| 17:35                                                            | 4,990           | 986               | 17:35               | 4,990           | 986               |
| 17:40                                                            | 4,990           | 991               | 17:40               | 4,990           | 991               |
| 17:45                                                            | 4,991           | 996               | 17:45               | 4,991           | 996               |
| 17:50                                                            | 4,991           | 1,001             | 17:50               | 4,991           | 1,001             |
| 17:55                                                            | 4,991           | 1,006             | 17:55               | 4,991           | 1,006             |
| 18:00                                                            | 4,992           | 1,011             | 18:00               | 4,992           | 1,011             |
| 18:05                                                            | 4,992           | 1,016             | 18:05               | 4,992           | 1,016             |
| 18:10                                                            | 4,992           | 1,021             | 18:10               | 4,992           | 1,021             |
| 18:15                                                            | 4,993           | 1,026             | 18:15               | 4,993           | 1,026             |
| 18:20                                                            | 4,993           | 1,031             | 18:20               | 4,993           | 1,031             |
| 18:25                                                            | 4,993           | 1,036             | 18:25               | 4,993           | 1,036             |
| 18:30                                                            | 4,994           | 1,041             | 18:30               | 4,994           | 1,041             |

THE STAGE-STORAGE MODEL IN HYDROCAD IS BASED ON AMT, INC.  
TOPOGRAPHIC SURVEY. ORIGINAL DESIGN OF THE EXISTING DRY  
DETENTION POND IS IN PLAN SET TITLED 'CITY OF ALEXANDRIA  
DASH BUS OPERATIONS AND MAINTENANCE FACILITIES', SPECIAL  
USE PERMIT NO. 2006-00025, DATED 11/18/2006.

**DESIGN LANDSCAPE ARCHITECT & DESIGN ENGINEER**

**AMT**

A. MARTIN THOMAS AND ASSOCIATES, INC.  
309 CENTRALE DRIVE, SUITE 220  
DALLAS, TEXAS 75201-3424  
PHONE (972) 381-2245  
FAX (972) 381-0704  
E-MAIL: [DESIGN@AMTTHOMAS.COM](mailto:DESIGN@AMTTHOMAS.COM)

PROJECT MANAGER: CHERISA BLOOM, P.E.

|            |                  |                   |
|------------|------------------|-------------------|
| SCALE: N/A | DATE: 05/24/2005 | DRAWING NO.: 1.0C |
|------------|------------------|-------------------|

[illegible]

**CITY OF ALEXANDRIA  
DASH FACILITY**  
3000 BUSINESS CENTER DRIVE  
ALEXANDRIA, VIRGINIA 22314

SHEET NAME: STORMWATER MANAGEMENT QUANTITY ANALYSIS

|                                                       |                     |                |
|-------------------------------------------------------|---------------------|----------------|
| <b>APPROVED</b>                                       |                     |                |
| <b>SPECIAL USE PERMIT NO.</b> _____                   |                     |                |
| DEPARTMENT OF PLANNING & ZONING                       |                     |                |
| DIRECTOR _____                                        |                     | DATE _____     |
| DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES |                     |                |
| SITE PLAN NO. _____                                   |                     |                |
| DIRECTOR _____                                        |                     | DATE _____     |
| CHAIRMAN, PLANNING COMMISSION _____                   |                     |                |
| DATE RECORDED _____                                   |                     |                |
| INSTRUMENT NO. _____                                  | DEED BOOK NO. _____ | PAGE NO. _____ |

THIS PROJECT IS FOLLOWING THE REQUIREMENTS OF VIRGINIA STORMWATER MANAGEMENT HANDBOOK, VERSION 1.1 AS WELL AS THE ALEXANDRIA WATER QUALITY VOLUME DEFLECT (WQV) TO DEMONSTRATE COMPLIANCE WITH WATER QUALITY. THE SITE IS DEFINED BY THE TOTAL APPLICABLE AREA WITHIN THE LIMITS OF DISTURBANCE (LOD) OF 1.51 ACRES. THE IMPERVIOUS AREA FOR THE EXISTING CONDITION IS 1.04 ACRES (68.9%) AND 1.29 ACRES (85.4%) FOR THE PROPOSED CONDITION. DUE TO THE INCREASE IN IMPERVIOUS AREA, THERE IS A 0.37 ACRE IMPERVIOUS WQV REDUCTION REQUIRED. TO THE WEST OF THE SITE THERE IS AN EXISTING DRY DETENTION POND (EXISTING DRY DETENTION POND) WITH A FILL-TO-SPILL CAPACITY OF 1 (P-FILL-05) IS PROPOSED WITHIN THE EXISTING DRY DETENTION POND. TO THE EAST OF THE SITE, THERE IS AN EXISTING DRY DETENTION POND (EXISTING DRY DETENTION POND) WITH A FILL-TO-SPILL CAPACITY OF 1 (P-FILL-05) IS PROPOSED WITHIN THE EXISTING DRY DETENTION POND. THE EXISTING DRY DETENTION POND TO THE WEST OF THE SITE IS A 0.37 ACRE DRY DETENTION POND WITH A FILL-TO-SPILL CAPACITY OF 1 (P-FILL-05) IS PROPOSED WITHIN THE EXISTING DRY DETENTION POND. THE EXISTING DRY DETENTION POND TO THE EAST OF THE SITE IS A 0.37 ACRE DRY DETENTION POND WITH A FILL-TO-SPILL CAPACITY OF 1 (P-FILL-05) IS PROPOSED WITHIN THE EXISTING DRY DETENTION POND. SO IT IS REPRESENTED IN THE VIRM UNDER THE CATEGORY OF WET POND TOTAL. (P-04S-02) THE BIORETENTION PROVIDES 0.37 LBYR REMOVAL AND THE DOWNSTREAM EXISTING DRY DETENTION POND IN SERIES PROVIDES AN ADDITIONAL 0.17 LBYR REMOVAL FOR A TOTAL OF 0.59 LBYR. THEREFORE, THE REQUIREMENT OF 0.37 LBYR IS SATISFIED.

| LAND COVER SUMMARY – PRE-REDEVELOPMENT                                                                      |        |           | LAND COVER SUMMARY – POST DEVELOPMENT                      |              |                 |
|-------------------------------------------------------------------------------------------------------------|--------|-----------|------------------------------------------------------------|--------------|-----------------|
| Land Cover Summary-Pre                                                                                      |        |           | Land Cover Summary-Post                                    |              |                 |
|                                                                                                             | Unmet  | Adjusted* |                                                            | Post Redvel. | Post Redvel/Imp |
| Forest Cover (acres)                                                                                        | 0.00   | 0.00      | Forest Cover (acres)                                       | 0.00         | 0.00            |
| Wetland (Acres)                                                                                             | 0.00   | 0.00      | Wetland (Acres)                                            | 0.00         | 0.00            |
| Wetland (Swampy Area) (acres)                                                                               | 0.00   | 0.00      | Wetland (Swampy Area) (acres)                              | 0.00         | 0.00            |
| % Forest                                                                                                    | 0%     | 0%        | % Forest                                                   | 0%           | 0%              |
| Mixed Open Cover (acres)                                                                                    | 0.00   | 0.00      | Mixed Open Cover (acres)                                   | 0.00         | 0.00            |
| Wetland (Palustrine)                                                                                        | 0.00   | 0.00      | Wetland (Palustrine)                                       | 0.00         | 0.00            |
| Wetland (Upland) (Acres)                                                                                    | 0.00   | 0.00      | Wetland (Upland) (Acres)                                   | 0.00         | 0.00            |
| % Mixed Open                                                                                                | 0%     | 0%        | % Mixed Open                                               | 0%           | 0%              |
| Managed Turf Cover (acres)                                                                                  | 0.47   | 0.22      | Managed Turf Cover (acres)                                 | 0.22         | 0.22            |
| Wetland (Palustrine)                                                                                        | 0.25   | 0.25      | Wetland (Palustrine)                                       | 0.25         | 0.25            |
| Wetland (Swampy Area) (acres)                                                                               | 0.05   | 0.05      | Wetland (Swampy Area) (acres)                              | 0.05         | 0.05            |
| % Managed Turf                                                                                              | 27%    | 12%       | % Managed Turf                                             | 12%          | 12%             |
| Impervious Cover (acres)                                                                                    | 1.04   | 1.04      | Impervious Cover (acres)                                   | 1.29         | 1.29            |
| Redeveloped                                                                                                 | 0.95   | 0.95      | Redeveloped                                                | 0.95         | 0.95            |
| Wetland (Swampy Area) (acres)                                                                               | 0.80   | 0.80      | Wetland (Swampy Area) (acres)                              | 0.80         | 0.80            |
| % Impervious                                                                                                | 49%    | 50%       | % Impervious                                               | 50%          | 50%             |
| Total (Swampy Area) (acres)                                                                                 | 1.53   | 1.28      | Total (Swampy Area) (acres)                                | 1.53         | 1.28            |
| Site Tot                                                                                                    | 0.79   | 0.83      | Site Tot                                                   | 0.83         | 0.83            |
| Treatment Volume and Nutrient Load                                                                          |        |           | Treatment Volume and Nutrient Load                         |              |                 |
| Pre Redevelopment Treatment Volume (acre-ft)                                                                | 0.0021 | 0.0019    | Pre Redevelopment Treatment Volume (acre-ft)               | 0.0069       | 0.0106          |
| Pre Redevelopment Treatment Volume (cubic feet)                                                             | 4,013  | 3,760     | Pre Redevelopment Treatment Volume (cubic feet)            | 3,760        | 862             |
| Pre-Redevelopment TP Load (lb/yr)                                                                           | 1.29   | 1.08      | Pre-Redevelopment TP Load (lb/yr)                          | 1.08         | 0.21            |
| Pre Redevelopment TP Load per acre (lb/acre/yr)                                                             | 0.01   | 0.01      | Pre Redevelopment TP Load per acre (lb/acre/yr)            | 0.01         |                 |
| (0.28 lb/acre/yr reflects pre-redevelopment area including previous land proposed for new impervious cover) | 0.22   |           | TP Load Reduction Required for New Impervious Area (lb/yr) | 0.22         | 0.15            |

**Runoff Volume and Curve Number Calculations, VRRM 4.1.1, 2024**

**Enter design event rainfall depth [in]**

|              |              |               |
|--------------|--------------|---------------|
| 1 year storm | 2 year storm | 10 year storm |
| 0.4          | 0.5          | 0.7           |

(or click on the map to find the design event rainfall depth)

**\*Notes (see below):**

The VRRM software calculates runoff volume considering the precipitation for each drainage area are critical to their applicability for determining and determining compliance with water quality requirements. See **Table 4-1** for details and documentation for additional information.

**2) Runoff Depth (in)** for 1 year and 10 year design storms calculated based on the volume of rainfall (in) at each cell, weighted by each cell's drainage area, divided by the total drainage area. Runoff measured in centimeters and divided by 2.54 converts to inches. Runoff measured in millimeters and divided by 25.4 converts to millimeters. Runoff measured in feet and divided by 12 converts to feet. Runoff measured in meters and divided by 1000 converts to meters.

**3) Runoff Volume (in<sup>3</sup>)** for 1 year and 10 year design storms calculated based on the volume of rainfall (in) at each cell, weighted by each cell's drainage area, divided by the total drainage area, multiplied by the total drainage area.

**4) Runoff Volume (mm)** for 1 year and 10 year design storms calculated based on the volume of rainfall (in) at each cell, weighted by each cell's drainage area, divided by the total drainage area, multiplied by the total drainage area, multiplied by 25.4.

**5) Runoff Volume (m<sup>3</sup>)** for 1 year and 10 year design storms calculated based on the volume of rainfall (in) at each cell, weighted by each cell's drainage area, divided by the total drainage area, multiplied by the total drainage area, multiplied by 25.4, multiplied by 0.0254.

**Drainage Area Curve Numbers and Runoff Depth\***

| Drainage Area A                                      | A (sq ft)                   | A (sq yd)                   | Cover | C (in) | C (mm) | Curve Number | Runoff Volume (in <sup>3</sup> ) |
|------------------------------------------------------|-----------------------------|-----------------------------|-------|--------|--------|--------------|----------------------------------|
| Forest - undisturbed, pasture forest in a streambank | 1,000                       | 1,000                       | 0.05  | 0.05   | 1.27   | 0.05         | 0.05                             |
| Forest - undisturbed, pasture forest in a streambank | 100                         | 100                         | 0.05  | 0.05   | 1.27   | 0.05         | 0.05                             |
| Forest - undisturbed, pasture forest in a streambank | 10                          | 10                          | 0.05  | 0.05   | 1.27   | 0.05         | 0.05                             |
| Forest - undisturbed, pasture forest in a streambank | 1                           | 1                           | 0.05  | 0.05   | 1.27   | 0.05         | 0.05                             |
| Forest - undisturbed, pasture forest in a streambank | 0.1                         | 0.1                         | 0.05  | 0.05   | 1.27   | 0.05         | 0.05                             |
| Forest - undisturbed, pasture forest in a streambank | 0.01                        | 0.01                        | 0.05  | 0.05   | 1.27   | 0.05         | 0.05                             |
| Forest - undisturbed, pasture forest in a streambank | 0.001                       | 0.001                       | 0.05  | 0.05   | 1.27   | 0.05         | 0.05                             |
| Forest - undisturbed, pasture forest in a streambank | 0.0001                      | 0.0001                      | 0.05  | 0.05   | 1.27   | 0.05         | 0.05                             |
| Forest - undisturbed, pasture forest in a streambank | 0.00001                     | 0.00001                     | 0.05  | 0.05   | 1.27   | 0.05         | 0.05                             |
| Forest - undisturbed, pasture forest in a streambank | 0.000001                    | 0.000001                    | 0.05  | 0.05   | 1.27   | 0.05         | 0.05                             |
| Forest - undisturbed, pasture forest in a streambank | 0.0000001                   | 0.0000001                   | 0.05  | 0.05   | 1.27   | 0.05         | 0.05                             |
| Forest - undisturbed, pasture forest in a streambank | 0.00000001                  | 0.00000001                  | 0.05  | 0.05   | 1.27   | 0.05         | 0.05                             |
| Forest - undisturbed, pasture forest in a streambank | 0.000000001                 | 0.000000001                 | 0.05  | 0.05   | 1.27   | 0.05         | 0.05                             |
| Forest - undisturbed, pasture forest in a streambank | 0.0000000001                | 0.0000000001                | 0.05  | 0.05   | 1.27   | 0.05         | 0.05                             |
| Forest - undisturbed, pasture forest in a streambank | 0.00000000001               | 0.00000000001               | 0.05  | 0.05   | 1.27   | 0.05         | 0.05                             |
| Forest - undisturbed, pasture forest in a streambank | 0.000000000001              | 0.000000000001              | 0.05  | 0.05   | 1.27   | 0.05         | 0.05                             |
| Forest - undisturbed, pasture forest in a streambank | 0.0000000000001             | 0.0000000000001             | 0.05  | 0.05   | 1.27   | 0.05         | 0.05                             |
| Forest - undisturbed, pasture forest in a streambank | 0.00000000000001            | 0.00000000000001            | 0.05  | 0.05   | 1.27   | 0.05         | 0.05                             |
| Forest - undisturbed, pasture forest in a streambank | 0.000000000000001           | 0.000000000000001           | 0.05  | 0.05   | 1.27   | 0.05         | 0.05                             |
| Forest - undisturbed, pasture forest in a streambank | 0.0000000000000001          | 0.0000000000000001          | 0.05  | 0.05   | 1.27   | 0.05         | 0.05                             |
| Forest - undisturbed, pasture forest in a streambank | 0.00000000000000001         | 0.00000000000000001         | 0.05  | 0.05   | 1.27   | 0.05         | 0.05                             |
| Forest - undisturbed, pasture forest in a streambank | 0.000000000000000001        | 0.000000000000000001        | 0.05  | 0.05   | 1.27   | 0.05         | 0.05                             |
| Forest - undisturbed, pasture forest in a streambank | 0.0000000000000000001       | 0.0000000000000000001       | 0.05  | 0.05   | 1.27   | 0.05         | 0.05                             |
| Forest - undisturbed, pasture forest in a streambank | 0.00000000000000000001      | 0.00000000000000000001      | 0.05  | 0.05   | 1.27   | 0.05         | 0.05                             |
| Forest - undisturbed, pasture forest in a streambank | 0.000000000000000000001     | 0.000000000000000000001     | 0.05  | 0.05   | 1.27   | 0.05         | 0.05                             |
| Forest - undisturbed, pasture forest in a streambank | 0.0000000000000000000001    | 0.0000000000000000000001    | 0.05  | 0.05   | 1.27   | 0.05         | 0.05                             |
| Forest - undisturbed, pasture forest in a streambank | 0.00000000000000000000001   | 0.00000000000000000000001   | 0.05  | 0.05   | 1.27   | 0.05         | 0.05                             |
| Forest - undisturbed, pasture forest in a streambank | 0.000000000000000000000001  | 0.000000000000000000000001  | 0.05  | 0.05   | 1.27   | 0.05         | 0.05                             |
| Forest - undisturbed, pasture forest in a streambank | 0.0000000000000000000000001 | 0.0000000000000000000000001 | 0.05  | 0.05   | 1.27   | 0.05         | 0.05                             |
|                                                      |                             |                             |       |        |        |              |                                  |

Miscellaneous

|                    |                                         |    |
|--------------------|-----------------------------------------|----|
| Total WQV treated: | <input checked="" type="checkbox"/> yes | no |
| Detention on site: | <input checked="" type="checkbox"/> yes | no |

Project is within which watershed? CAMERON RUN

Project discharges to which body of water? CAMERON RUN





# Construction Inspection Checklist: Bioretention

Project Name: \_\_\_\_\_ Address: \_\_\_\_\_  
 DSP/DSUP/GRP #: \_\_\_\_\_ Construction Start Date: \_\_\_\_\_  
 Contractor: \_\_\_\_\_ Telephone: \_\_\_\_\_  
 Certifying Professional: \_\_\_\_\_ Telephone: \_\_\_\_\_  
 RMP ID and General Location: \_\_\_\_\_

- The certifying professional must be a Virginia licensed Professional Engineer, Landscape Architect or Land Surveyor.
- A certification is required pursuant to 9VAC25-470-45 of the Virginia Stormwater Management Regulations for all stormwater BMP facilities.
- Inspectors should review the plans carefully and adjust those items and the timing of inspection verification as needed to ensure the intent of the design is met. The standard for design of this practice is based on the Virginia Stormwater BMP Design Manual.

- Mark each item as complete or write in "N/A" for those items that are not applicable.
- Fill in the blanks for requested information on dimensions, materials, etc.
- Provide one or more labeled photos for applicable items; check boxes indicate items that require photos. Photos requiring measurements (indicated with a dimension to be populated) must include visual verification (ruler, measuring tape, etc.).

| Complete                 | Photo | Description                                                                                                                                                                         | Date |
|--------------------------|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| <input type="checkbox"/> |       | The narrative schedule for construction has been identified and the requirements and schedule for interim inspections verified.                                                     |      |
| <input type="checkbox"/> |       | A pre-construction meeting with the contractor designated to install the bioretention area, the City SWMESC inspector, and the person completing this checklist has been conducted. |      |
| <input type="checkbox"/> |       | The SWP has been reviewed and requirements verified by the contractor, the person conducting inspections, and the City SWMESC inspector (projects over one acre of disturbance).    |      |

| Complete                 | Photo | Description                                                                                                                                                                                                         | Date |
|--------------------------|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| <input type="checkbox"/> |       | The bioretention area has not been impacted during construction or has been remediated prior to installation.                                                                                                       |      |
| <input type="checkbox"/> |       | All pervious areas of the contributing drainage area have been adequately stabilized with a silt lock or vegetation or erosion control measures are well in place and stormwater has been diverted around the area. |      |
| <input type="checkbox"/> |       | Impervious cover draining to the BMP has been constructed and the area is free of equipment, vehicles, and material storage.                                                                                        |      |
| <input type="checkbox"/> |       | Stormwater is diverted around the bioretention area and perimeter E&S controls to protect the BMP during construction have been installed.                                                                          |      |

| Complete                 | Photo | Description                                                                                           | Date |
|--------------------------|-------|-------------------------------------------------------------------------------------------------------|------|
| <input type="checkbox"/> |       | The area of bioretention excavation is marked and the size and location conform to the approved plan. |      |

## Bioretention Area Maintenance Schedule and Guidelines

This document must be recorded as an addendum to the stormwater management/ BMP facilities operation and maintenance agreement.

### First Year Maintenance Guidelines

- Successful establishment of bioretention areas requires that the following tasks be undertaken in the first year following installation:
- Initial inspections. For the first 6 months following construction, the bioretention area should be inspected at least twice after storm events that exceed 1/2 inch of rainfall.
- Spot reseeding. Inspect for bare or eroding areas in the contributing drainage area or around the bioretention area, and make sure they are immediately stabilized with grass cover.
- Watering. Watering is needed once a week during the first 2 months, and then as needed during first growing season (April-October), depending on rainfall.
- Remove and replace dead plants.

### Routine Maintenance Guidelines

Bioretention areas must be inspected to ensure that they operate in good working condition and in accordance with the approved design and specifications. Items in need of repair must be immediately addressed.

| Excavation (continued)   | Complete | Photo | Description                                                                                                                                                                                                                        | Date |
|--------------------------|----------|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| <input type="checkbox"/> |          |       | If the excavation area has been used as a sediment trap, the bottom elevation of the proposed stone reservoir is lower than the bottom elevation of the existing trap. Excavation bottom is scarified prior to placement of stone. |      |
| <input type="checkbox"/> |          |       | Swampy surface is free of rocks, roots, and large voids. (voids may be re-filled with base aggregate to create a level surface for the placement of aggregate and underdrains.)                                                    |      |
| <input type="checkbox"/> |          |       | No groundwater seepage or standing water is present. Any standing water is dewatered through an acceptable dewatering device and the design consultant has been notified.                                                          |      |
| <input type="checkbox"/> |          |       | Excavation of the bioretention area has achieved proper grades and the required geometry. The area has been excavated from the sides to avoid soil compaction. Constructed dimensions: _____ ft.                                   |      |
| <input type="checkbox"/> |          |       | Sides of the excavation area are covered with geotextile, no turns or holes, or excessive voids are present.                                                                                                                       |      |

| Pre-treatment, Filter Layer, Underdrain and Stone Reservoir Placement | Complete | Photo | Description                                                                                                                                                 | Date |
|-----------------------------------------------------------------------|----------|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| <input type="checkbox"/>                                              |          |       | Energy dissipaters and pretreatment practices (forebays, gravel disphragms, etc.) are installed in accordance with the approved plan/design specifications. |      |
| <input type="checkbox"/>                                              |          |       | All aggregates (stone, sand, etc., as required) conform to the approved plan/design specifications.                                                         |      |
| <input type="checkbox"/>                                              |          |       | The impermeable liner (when required) is placed in accordance with manufacturer specifications and the approved plan.                                       |      |
| <input type="checkbox"/>                                              |          |       | Filter fabric is installed on the sides only per the approved plan/design specifications. (depth of 40" stone: _____ ft.)                                   |      |
| <input type="checkbox"/>                                              |          |       | Ponding depth is in accordance with the required storage depth per the approved plan/design specifications.                                                 |      |
| <input type="checkbox"/>                                              |          |       | Underdrain size and perforations conform to the approved plan/design specifications. (all perforations) Underdrain Diameter: _____ inches                   |      |
| <input type="checkbox"/>                                              |          |       | Underdrain Material: _____                                                                                                                                  |      |
| <input type="checkbox"/>                                              |          |       | Underdrain Spacing: _____ ft.                                                                                                                               |      |
| <input type="checkbox"/>                                              |          |       | Perforation Size & Spacing: _____ inches                                                                                                                    |      |
| <input type="checkbox"/>                                              |          |       | Number of Cleanout/Observation Wells: _____                                                                                                                 |      |
| <input type="checkbox"/>                                              |          |       | Placement of underdrains, cleanout/observation wells, and underdrain fittings are in accordance with the approved plan/design specifications.               |      |
| <input type="checkbox"/>                                              |          |       | Elevations of the underdrains and outlet structure are in accordance with approved plan.                                                                    |      |
| <input type="checkbox"/>                                              |          |       | The filter layer (choker stone/gravel/sand) is installed per the approved plan/design specifications.                                                       |      |
| <input type="checkbox"/>                                              |          |       | Choker material: _____                                                                                                                                      |      |
| <input type="checkbox"/>                                              |          |       | Depth of choker material: _____ inches                                                                                                                      |      |

Construction Inspection Checklist: Bioretention

| Soil Media Placement     | Complete | Photo | Description                                                                                                                                                                                                                                                                                                                                                                 | Date |
|--------------------------|----------|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| <input type="checkbox"/> |          |       | Soil media is certified by a supplier or contractor as conforming to the approved plan/design specifications.                                                                                                                                                                                                                                                               |      |
| <input type="checkbox"/> |          |       | Filter media is placed in 12-inch lifts to the top elevation of the bioretention area in accordance with the approved plan/design specifications. The filter media is rated to a level grade after final lift and the elevation has been verified after settlement. No machinery, vehicles, or other heavy equipment have been permitted to travel across the filter media. |      |
| <input type="checkbox"/> |          |       | Filter media depth conforms to the approved plan/design specifications. Depth: _____ ft.                                                                                                                                                                                                                                                                                    |      |
| <input type="checkbox"/> |          |       | Side slopes of the ponding area are laid back at the required slope (no steeper than 3H:1V) in accordance with the approved plan/design specifications.                                                                                                                                                                                                                     |      |

| Plant and Choker Installation | Complete | Photo | Description                                                                                                                          | Date |
|-------------------------------|----------|-------|--------------------------------------------------------------------------------------------------------------------------------------|------|
| <input type="checkbox"/>      |          |       | Riser, overflow weir, or other overflow structure is set to the elevation in the approved plan/design specifications and functional. |      |
| <input type="checkbox"/>      |          |       | Media composition and depth conform to approved plan/design specifications.                                                          |      |
| <input type="checkbox"/>      |          |       | Depth of mulch layer: _____ inches                                                                                                   |      |
| <input type="checkbox"/>      |          |       | The impermeable liner (when required) is placed in accordance with manufacturer specifications and the approved plan.                |      |
| <input type="checkbox"/>      |          |       | Ponding depth is in accordance with the approved plan/design specifications after plant and mulch placement.                         |      |
| <input type="checkbox"/>      |          |       | Depth of ponding area: _____ inches (above mulch, 12" maximum)                                                                       |      |
| <input type="checkbox"/>      |          |       | Signs are installed per the approved plan.                                                                                           |      |
| <input type="checkbox"/>      |          |       | Plant installation conforms to the approved plan/design specifications and all plants are healthy.                                   |      |
| <input type="checkbox"/>      |          |       | Final elevations and slopes within the bioretention area after plant and mulch installation match the approved plan elevations.      |      |
| <input type="checkbox"/>      |          |       | Provide a photo of the completed BMP after completion of construction.                                                               |      |

| Comments | Date |
|----------|------|
|          |      |
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Construction Inspection Checklist: Bioretention

| Comments (continued) |
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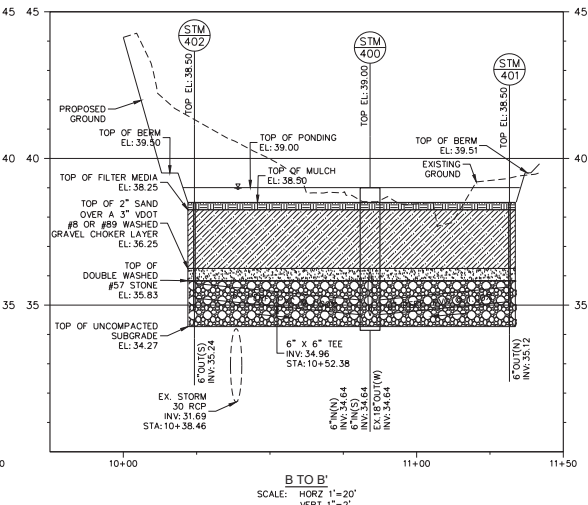
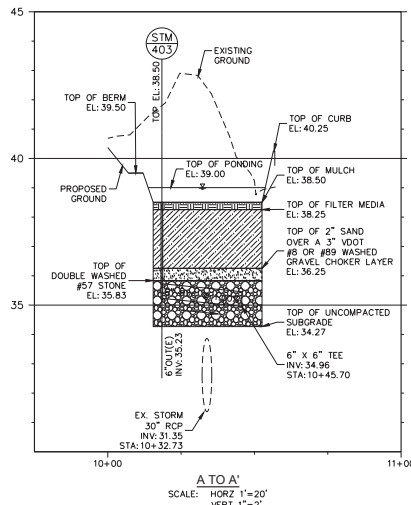
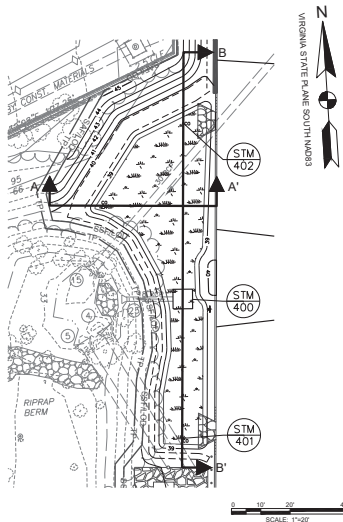
All items checked above have been inspected by me (or by an individual under my responsible charge) and have been completed to my satisfaction and meet the approved plan and specifications (or deviation as noted above).

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Certifying Professional's License Number (or Seal): \_\_\_\_\_

| Material                                                                | Specification                                                                                                                                                                 | Notes                                                                                                                                                                                                                                          |
|-------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Filter Media Composition (Appendix F)                                   | 80% - 90% sand<br>10% - 20% soil fines<br>3% - 5% organic matter                                                                                                              | The volume of filter media based on 110% of the plan volume, to account for settling or compaction. See Appendix F.                                                                                                                            |
| Filter Media Testing                                                    | See Appendix F for criteria                                                                                                                                                   | The media should be certified by the supplier.                                                                                                                                                                                                 |
| Mulch Layer                                                             | Use aged (at least 6 months), double-shredded hardwood bark mulch.                                                                                                            | Lay a 2- to 3-inch layer on the surface of the filter bed.                                                                                                                                                                                     |
| Alternative Surface Cover                                               | Use river stone or pea gravel, cor and jute matting, or turfgrass cover.                                                                                                      | Lay a 2- to 3-inch layer to suppress weed growth.                                                                                                                                                                                              |
| Topsoil For Manage Grass Cover or other intensive vegetation management | Loamy sand or sandy loam texture, with less than 5% clay content, pH corrected to between 6 and 7, and an organic matter content of at least 2%.                              | 3-inch surface depth. Must meet minimum K <sub>sat</sub> requirements of underlying media.                                                                                                                                                     |
| Geotextile/Liner                                                        | Use a non-woven geotextile fabric with a flow rate of > 110 gal/min/ft <sup>2</sup> (e.g., Geotex 351 or equivalent).                                                         | Apply only to the sides and directly above the underdrain. For hotspots and certain sand sites only, use the appropriate liner on the bottom.                                                                                                  |
| Choking Layer                                                           | Lay 2- to 4-inch layer of sand over 3-inch layer of VDOT #8 or #89 washed gravel.                                                                                             | 8 inches for the underdrain. Up to 12 inches for the stone storage layer, if needed; Double washed and clean and free of all fines.                                                                                                            |
| Stone Underdrain and/or Storage Layer                                   | VDOT #57 stone                                                                                                                                                                | Use 6-inch rigid schedule 40 PVC pipe (or equivalent corrugated HDPE for micro-bioretention), with 3/8-inch perforations at 6 inches on center. Position each underdrain on a 1% or 2% slope located not more than 20 feet from the next pipe. |
| Underdrains and Cleanouts                                               | Use 4- to 6-inch rigid schedule 40 PVC pipe (or equivalent corrugated HDPE for micro-bioretention), with 3/8-inch perforations at 6 inches on center within the gravel layer. | Use a closed wall pipe above the gravel layer. Extend observation well pipes to the surface with vented caps.                                                                                                                                  |
| Observation Wells                                                       | Use 4- to 6-inch rigid schedule 40 PVC pipe (or equivalent corrugated HDPE for micro-bioretention), with 3/8-inch perforations at 6 inches on center within the gravel layer. | Establish plant materials as specified in the landscaping plan and the recommended plant list.                                                                                                                                                 |
| Plant Materials                                                         | See Section 5.2 and Table P-FIL-05-7                                                                                                                                          |                                                                                                                                                                                                                                                |

| Facility     | Design Level | Total Drainage Area (sq ft) | Total Drainage Area (acres) | Surface Area (sq ft) | Ponding depth (ft) | Filter depth (in) | Gravel depth (in) | Ponding Volume (1,000 vol) | Soil Storage Volume (0.25 vol) | Gravel Storage Volume (0.4 vol) | Available Storage (CF) |
|--------------|--------------|-----------------------------|-----------------------------|----------------------|--------------------|-------------------|-------------------|----------------------------|--------------------------------|---------------------------------|------------------------|
| Bioretention | 1            | 39053                       | 0.90                        | 2008                 | 6                  | 24                | 12                | 1004                       | 1004                           | 803                             | 2811                   |



DESIGN LANDSCAPE ARCHITECT & DESIGN ENGINEER

**AMT**

A. MORTON TROMBAY & ASSOCIATES, INC.

3000 BUSINESS CENTER DRIVE, SUITE 200  
ALEXANDRIA, VA 22314  
PHONE: (703) 746-2244  
FAX: (703) 746-2245  
E-MAIL: AMT@AMTDESIGN.COM

PROJ. MANAGER: CHELSEA BISHOP, P.E., EIT  
DATE: 06/22/2025  
SCALE: 1"=30'

SEAL: \_\_\_\_\_

CHELSEA M. BISHOP  
REGISTERED PROFESSIONAL ENGINEER  
STATE OF VIRGINIA  
EXPIRATION DATE: 06/22/2025

REVISION APPROVED BY

| REL | DATE | APPROVED | DESCRIPTION |
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CITY OF ALEXANDRIA  
DASH FACILITY  
3000 BUSINESS CENTER DRIVE  
ALEXANDRIA, VIRGINIA 22314

STORMWATER MANAGEMENT DETAILS

SHEET NAME: \_\_\_\_\_

APPROVED SPECIAL USE PERMIT NO. \_\_\_\_\_

DEPARTMENT OF PLANNING & ZONING

DIRECTOR \_\_\_\_\_ DATE \_\_\_\_\_

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES

SITE PLAN No. \_\_\_\_\_

DIRECTOR \_\_\_\_\_ DATE \_\_\_\_\_

CHAIRMAN, PLANNING COMMISSION \_\_\_\_\_ DATE \_\_\_\_\_

DATE RECORDED \_\_\_\_\_

INSTRUMENT NO. \_\_\_\_\_ DEED BOOK NO. \_\_\_\_\_ PAGE NO. \_\_\_\_\_

Job No. 23-0754,001





1. The property owner and/or applicant, specifier, contractor and installer of plant material are responsible for understanding and adhering to the standards set forth in the most recent version of the City of Alexandria Landscape Guidelines and applicable conditions of approval. All questions regarding application of, or adherence to, the standards or conditions of approval shall be referred to the City prior to the commencement of demolition, construction, or any land disturbing activity.
2. The City-approved city-approved landscape plan submission, including plant schedule, notes and details shall be the document used for installation purposes and all procedures set forth in the landscape guidelines must be followed.
3. The contractor/contractor shall not interfere with any free tree protection measures or impact any existing vegetation identified to be preserved per the approved tree and vegetation protection plan.
4. Any changes, alterations or omissions to the approved tree and vegetation protection zones will require an amendment to the approved tree and vegetation protection plan and/or details.
5. Installation of plant material may only occur during the planting seasons identified in the landscape guidelines.
6. In lieu of more strenuous specifications, all landscape related work shall be installed and maintained in accordance with the current and most up-to-date edition (at time of construction) of Landscape Specification Guidelines as produced by the Landscape Contractors Association of Maryland, District of Columbia and Virginia. Guidelines shall be available at <http://www.lcama.org>.
7. Substitutions to the approved plant material shall not occur until written approval is provided by the City.
8. Maintenance for this project shall be performed by the owner, applicant, successor(s) and/or assign(s) in perpetuity and in compliance with City of Alexandria Landscape Guidelines and as conditioned by project approval, as applicable.



N  
VIRGINIA STATE PLANE SOUTH NAD83

DESIGN LANDSCAPE ARCHITECT &amp; DESIGN ENGINEER



A MORTON THOMAS AND ASSOCIATES INC.

CONSULTING ENGINEERS  
3076 CENTREVILLE DRIVE, SUITE 220  
FALLS CHURCH, VA 22044

HERNDON, VA 20171  
PHONE (202) 891-2545

ER: CHELSEA B&B, P.E. EMAIL: CBSHOP@AOL.COM

|                  |            |
|------------------|------------|
| DATE: 06/23/2024 | DRAWN: CMB |
|------------------|------------|

| Overall Score | Overall Rank |
|---------------|--------------|
| 100           | 1            |
| 95            | 2            |
| 90            | 3            |
| 85            | 4            |
| 80            | 5            |
| 75            | 6            |
| 70            | 7            |
| 65            | 8            |
| 60            | 9            |
| 55            | 10           |
| 50            | 11           |
| 45            | 12           |
| 40            | 13           |
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| 25            | 16           |
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| 15            | 18           |
| 10            | 19           |
| 5             | 20           |

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CITY OF ALEXANDRIA  
DASH FACILITY  
3000 BUSINESS CENTER DRIVE  
ALEXANDRIA, VIRGINIA 22314

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APPROVED  
SPECIAL USE PERMIT NO. \_\_\_\_\_  
DEPARTMENT OF PLANNING & ZONING

DIRECTOR \_\_\_\_\_ D:  
DEPARTMENT OF TRANSPORTATION & ENVIRONMENT  
SITE PLAN No. \_\_\_\_\_

|                               |   |
|-------------------------------|---|
| DIRECTOR                      | D |
| CHAIRMAN, PLANNING COMMISSION | D |
| DATE RECORDED                 |   |

INSTRUMENT NO. \_\_\_\_\_ DEED BOOK NO. \_\_\_\_\_

QUEST NO: LP 101 10 10

SHEET NO: LP-101 42

SHEET NAME:

Diagram and notes for DECIDUOUS TREE PLANTING. Includes plan view and cross-section details. Notes cover planting procedures, soil requirements, and watering instructions.

**DECIDUOUS TREE PLANTING**  
NOT TO SCALE

City of Alexandria, Virginia  
Standard Landscape Details  
City of Alexandria, Virginia

Diagram and notes for MULTI-STEM TREE PLANTING. Includes plan view and cross-section details. Notes cover planting procedures, soil requirements, and watering instructions.

**MULTI-STEM TREE PLANTING**  
NOT TO SCALE

City of Alexandria, Virginia  
Standard Landscape Details  
City of Alexandria, Virginia

Diagram and notes for TREE PLANTING ON SLOPE. Includes plan view and cross-section details. Notes cover planting procedures, soil requirements, and watering instructions.

**TREE PLANTING ON SLOPE**  
NOT TO SCALE

City of Alexandria, Virginia  
Standard Landscape Details  
City of Alexandria, Virginia

| PLAN KEY | QUANTITY | GENUS       | SPECIES      | COMMON NAME         | CALIPER/HEIGHT               | CCA PER TREE (SF) | TOTAL CROWN COVER (SF) | LOCAL/ REGIONAL (%) | EASTERN U.S. (%) | TOTAL |
|----------|----------|-------------|--------------|---------------------|------------------------------|-------------------|------------------------|---------------------|------------------|-------|
| AA       | 2        | Amelanchier | arborescens  | Serviceberry        | 1.5"-1.75" cal./6-10 ft. ht. | 500               | 1,000                  | 2                   | 2                |       |
| BN       | 2        | Betula      | nigra        | River Birch         | 2"-3" cal./12-14 ft. ht.     | 750               | 1,500                  | 2                   | 2                |       |
| CC       | 2        | Cercis      | canadensis   | Eastern Redbud      | 1.5"-1.75" cal./6-10 ft. ht. | 500               | 1,000                  | 2                   | 2                |       |
| CO       | 1        | Celtis      | occidentalis | Hackberry           | 2"-3" cal./12-14 ft. ht.     | 1,250             | 1,250                  | 1                   | 1                |       |
| CK       | 2        | Cladriasis  | kentuckia    | Yellowwood          | 2"-3" cal./12-14 ft. ht.     | 1,250             | 2,500                  | 2                   | 2                |       |
| CV       | 2        | Crataegus   | viridis      | Green Hawthorn      | 1.5"-1.75" cal./6-10 ft. ht. | 500               | 1,000                  | 2                   | 2                |       |
| GD       | 1        | Gymnocladus | dioica       | Kentucky Coffeetree | 2"-3" cal./12-14 ft. ht.     | 1,250             | 1,250                  | 1                   | 1                |       |
| MS       | 2        | Nyssa       | sylvatica    | Blackgum            | 2"-3" cal./12-14 ft. ht.     | 750               | 1,500                  | 2                   | 2                |       |
| PO       | 1        | Platanus    | occidentalis | Sycamore            | 2"-3" cal./12-14 ft. ht.     | 1,250             | 1,250                  | 1                   | 1                |       |
| QM       | 1        | Quercus     | marilandica  | Blackjack Oak       | 2"-3" cal./12-14 ft. ht.     | 750               | 750                    | 1                   | 1                |       |
| QP       | 1        | Quercus     | palustris    | Pin Oak             | 2"-3" cal./12-14 ft. ht.     | 1,250             | 1,250                  | 1                   | 1                |       |
| SA       | 2        | Sassafras   | albidum      | Sassafras           | 2"-3" cal./12-14 ft. ht.     | 1,250             | 2,500                  | 2                   | 2                |       |
| TA       | 1        | Tilia       | americana    | Linden              | 2"-3" cal./12-14 ft. ht.     | 1,250             | 1,250                  | 1                   | 1                |       |
| TOTALS   | 20       |             |              |                     |                              |                   |                        | 18                  | 20               |       |
|          |          |             |              |                     |                              |                   |                        | 90.0%               | 100.0%           |       |

| BIODIVERSITY TABULATIONS           |      |                           |                         |              |      |                           |                         |  |  |
|------------------------------------|------|---------------------------|-------------------------|--------------|------|---------------------------|-------------------------|--|--|
| TREES (URBAN AND STANDARD)         |      |                           |                         |              |      |                           |                         |  |  |
| TOTAL NUMBER OF TREES PROPOSED: 20 |      |                           |                         |              |      |                           |                         |  |  |
| GENUS                              | QTY. | PERCENT OF TOTAL PROPOSED | MAXIMUM PERCENT ALLOWED | SPECIES      | QTY. | PERCENT OF TOTAL PROPOSED | MAXIMUM PERCENT ALLOWED |  |  |
| Amelanchier                        | 2    | 10.0%                     | 33%                     | arborescens  | 2    | 10.0%                     | 30%                     |  |  |
| Betula                             | 2    | 10.0%                     | 33%                     | nigra        | 2    | 10.0%                     | 30%                     |  |  |
| Celtis                             | 1    | 5.0%                      | 33%                     | occidentalis | 1    | 5.0%                      | 30%                     |  |  |
| Cercis                             | 2    | 10.0%                     | 33%                     | canadensis   | 2    | 10.0%                     | 30%                     |  |  |
| Cladriasis                         | 2    | 10.0%                     | 33%                     | kentuckia    | 2    | 10.0%                     | 30%                     |  |  |
| Crataegus                          | 2    | 10.0%                     | 33%                     | viridis      | 2    | 10.0%                     | 30%                     |  |  |
| Gymnocladus                        | 1    | 5.0%                      | 33%                     | dioica       | 1    | 5.0%                      | 30%                     |  |  |
| Nyssa                              | 2    | 10.0%                     | 33%                     | sylvatica    | 2    | 10.0%                     | 30%                     |  |  |
| Quercus                            | 2    | 10.0%                     | 33%                     | marilandica  | 1    | 5.0%                      | 30%                     |  |  |
| Platanus                           | 1    | 5.0%                      | 33%                     | palustris    | 1    | 5.0%                      | 30%                     |  |  |
| Sassafras                          | 2    | 10.0%                     | 33%                     | albidum      | 2    | 10.0%                     | 30%                     |  |  |
| Tilia                              | 1    | 5.0%                      | 33%                     | americana    | 1    | 5.0%                      | 30%                     |  |  |

| NATIVE PLANT TABULATIONS  |          |                |          |          |        |
|---------------------------|----------|----------------|----------|----------|--------|
| BEGINNING JANUARY 2, 2024 |          |                |          |          |        |
| PLANT TYPE                | QUANTITY | NATIVE TYPE    | PERCENT  |          | %      |
|                           |          |                | REQUIRED | PROVIDED |        |
| Standard Trees            | 20       | Regional/Local | 40%      | 18       | 90.0%  |
|                           |          | Total Natives  | 80%      | 20       | 100.0% |

| CROWN COVER TABULATIONS           |        |
|-----------------------------------|--------|
| TOTAL SITE AREA (SF)              | 65,832 |
| 25% CROWN COVER REQUIRED (SF)     | 16,458 |
| EXISTING CROWN COVER (SF)         | 25,688 |
| REMOVED CROWN COVER (SF)          | 11,750 |
| PRESERVED CROWN COVER (SF)        |        |
| Crown Cover from Preserved Trees  | 13,938 |
| Crown Cover from Preserved Shrubs | 0      |
| PROPOSED CROWN COVER (SF)         |        |
| Crown Cover from Proposed Trees   | 17,000 |
| Crown Cover from Proposed Shrubs  |        |
| TOTAL CROWN COVER PROVIDED (SF)   | 25,838 |
| TOTAL CROWN COVER PROVIDED (%)    | 17.000 |

DESIGN LANDSCAPE ARCHITECT & DESIGN ENGINEER

AMT

A. Mendenhall Associates, Inc.

300 CENTRE DRIVE, SUITE 200  
ALEXANDRIA, VA 22304  
PHONE: (703) 746-2400  
FAX: (703) 746-2401  
EMAIL: OFFICE@AMTDC.COM

PROJ. MANAGER: DEBRA BISHOP, L.E., EMAIL: DBISHOP@AMTDC.COM

SCALE: N/A

DATE: 02/27/2025

ISSUED: CHL, LCC

REVISION APPROVED BY:

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CITY OF ALEXANDRIA  
DASH FACILITY  
3000 BUSINESS CENTER DRIVE  
ALEXANDRIA, VIRGINIA 22314

LANDSCAPE NOTES AND DETAILS

SHEET NAME:

APPROVED SPECIAL USE PERMIT NO. \_\_\_\_\_

DEPARTMENT OF PLANNING & ZONING

DIRECTOR \_\_\_\_\_ DATE \_\_\_\_\_

CHAIRMAN, PLANNING COMMISSION \_\_\_\_\_ DATE \_\_\_\_\_

DATE RECORDED \_\_\_\_\_

INSTRUMENT NO. \_\_\_\_\_ DEED BOOK NO. \_\_\_\_\_ PAGE NO. \_\_\_\_\_



A

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B

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D

STRUCTURAL AND MISCELLANEOUS STEEL

- A. CODES AND STANDARDS:
- AISC "STEEL CONSTRUCTION MANUAL", 14TH EDITION.
  - AISC 303 "CODE OF STANDARD PRACTICE FOR BUILDINGS AND BRIDGES"
  - AISC 308 "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS"
  - RCSC "SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH STRENGTH BOLTS"
  - AWS D1.1 "STRUCTURAL WELDING CODE"
  - AISC "SPECIFICATION FOR ARCHITECTURALLY EXPOSED STRUCTURAL STEEL"
- B. SUBMITTALS:
- SHOP DRAWINGS INDICATING THE SIZES, EXTENT, AND LOCATION OF ALL STRUCTURAL AND MISCELLANEOUS STEEL FRAMING INCLUDING ALL CONNECTIONS, FASTENERS, AND BEARINGS.
- C. MATERIALS:
- W-SHAPES: ASTM A 992
  - CHANNELS, ANGLES, PLATES: ASTM A 36
  - HOLLOW STRUCTURAL SECTIONS (HSS): ASTM A 500, GRADE "B"
  - STEEL PIPE: ASTM A 53, TYPE E OR S, GRADE B
  - PRIMER: FABRICATOR'S STANDARD LEAD AND CHROMATE FREE NON-SPHALTIC, RUST INHIBITING, COMPLY WITH MP979
  - NON-METALLIC, NON-SHRINKAGE GROUT: ASTM C 1107 WITH MINIMUM COMPRESSIVE RESISTANT GROUT STRENGTH OF 5000 PSI AT 28 DAYS
  - GALVANIZE: HOT-DIP ZINC COATING, ASTM A 123
- D. CONNECTIONS:
- WELDED CONNECTIONS: E70XX ELECTRODES  
ASTM F 3125, A 325, TYPE 1, HEAVY-HEX STEEL STRUCTURAL BOLTS
  - HIGH-STRENGTH BOLTS: ASTM F 3125, A 480, TYPE 1, HEAVY-HEX STEEL STRUCTURAL BOLTS
  - SHEAR CONNECTORS: ASTM A 108, GRADES 1015 THROUGH 1020, HEADED STUD TYPE
  - UNHEADED ANCHOR RODS: ASTM F 1554, GRADES 3055/105, STRAIGHT, WITH DOUBLE ASTM A 563 HEAVY-HEX CARBON STEEL NUTS
  - HEADED ANCHOR RODS: ASTM F 1554, GRADES 3055/105, STRAIGHT, WITH DOUBLE ASTM A 563 HEAVY-HEX CARBON STEEL NUTS
  - ALL STEEL CONNECTION DESIGN SHALL BE COMPLETED BY A DESIGN PROFESSIONAL HIRED BY THE CONTRACTOR, AND SATISFY THE LOAD REQUIREMENTS SPECIFIED IN THE CONTRACT DOCUMENTS. PRIOR TO SUBMISSION OF STEEL SHOP DRAWINGS, THE STEEL FABRICATOR SHALL SUBMIT SAMPLE CALCULATIONS (PREPARED BY A REGISTERED STRUCTURAL ENGINEER) FOR ALL TYPICAL BEAM AND BEAM TO COLUMN CONNECTIONS, WHICH ARE PROPOSED TO BE USED ON THIS PROJECT. AFTER THESE TYPICAL CALCULATIONS AND CONNECTIONS ARE ACCEPTED, THE FABRICATOR SHALL PREPARE AND SUBMIT THE SHOP DRAWINGS FOR THIS PROJECT. THESE TYPICAL CALCULATIONS ARE REQUIRED TO BE SEALED BY A REGISTERED STRUCTURAL ENGINEER. FOR ADDITIONAL INFORMATION REFER TO SPECIFICATIONS.
  - THE SHEAR CONNECTION CAPACITY FOR COMPOSITE STEEL BEAMS SHALL BE DETERMINED BY MULTIPLYING THE BEAM REACTION  $R \leq W_c I_c$  WHERE  $I \leq W_c I_c$  IS THE UNIFORM LOAD CONSTANT IN KIP-FOOT, AND WHERE  $I$  IS THE SPAN IN FEET AS SHOWN IN THE TABLES "UNIFORM LOAD CONSTANTS FOR BEAMS" BY 1.75 FOR ALL INTERIOR BEAMS AND 1.25 FOR EXTERIOR SPANDREL BEAMS. FOR ADDITIONAL INFORMATION REFER TO SPECIFICATIONS.
- E. INSPECTIONS BY INDEPENDENT INSPECTION AGENCY:
- BOLTED CONNECTIONS: RCSC "SPECIFICATION FOR STRUCTURAL JOINTS USING A 325 OR A 480 BOLT"
  - WELDED CONNECTIONS: VISUAL INSPECTION, TESTING AND INSPECTION PER AWS D1.1
  - NOTE: VERIFY, WITH ERECTOR PRESENT, ELEVATIONS OF CONCRETE AND MASONRY BEARING SURFACES AND LOCATIONS OF ANCHOR BOLTS AND OTHER EMBEDDED ITEMS.
- F. INSTALLATION:
- ALL CONNECTIONS, UNLESS OTHERWISE NOTED, SHALL BE DOUBLE ANGLE OR SINGLE PLATE SHEAR CONNECTIONS DESIGNED AND DETAILED IN ACCORDANCE WITH AISC MANUAL OF STEEL CONSTRUCTION.
    - MINIMUM EDGE DISTANCE: 1 1/2 INCHES
    - BOLT SPACING: 3 INCHES
  - BEAM CONNECTIONS SHALL USE NO LESS THAN TWO 3/4" DIAMETER ASTM A 325N OR A 480 HIGH STRENGTH BOLTS.
  - BOLTED CONNECTIONS FOR MOMENT FRAMES, BRACED FRAMES, AND ANY OTHER LOCATIONS INDICATED SUCH ON PLAN WILL BE SLP-CRITICAL. ALL OTHER BOLTED CONNECTIONS SHALL BE PRE-TENSIONED.
  - ALL SHOP AND FIELD WELDS SHALL BE PERFORMED BY CERTIFIED WELDERS.
  - WELDS SHALL DEVELOP THE FULL STRENGTH OF MATERIALS BEING WELDED UNLESS OTHERWISE INDICATED.
  - THE CONTRACTOR SHALL NOT SPICE OR CUT OPENINGS IN STEEL MEMBERS NOT SHOWN ON CONTRACT DRAWINGS WITHOUT THE PERMISSION OF THE STRUCTURAL ENGINEER.
  - ALL STRUCTURAL STEEL EXPOSED TO WEATHER OR IN CONTACT WITH CONCRETE OR MASONRY, INCLUDING ALL BOLTS AND ACCESSORIES, BUT WITH THE EXCEPTION OF STEEL COLUMN BASE PLATES, SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A-123 AND A-153. ALL AREAS OF FIELD WELDING AND BOLTING AND ANY OTHER AREAS WITH DAMAGED COATING SHALL BE FIELD REPAIRED WITH SSPC PAINT 20 GALVANIZING REPAIR PAINT APPLIED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

STRUCTURAL GENERAL NOTES

STEEL DECKING:

- A. REFER TO "STRUCTURAL STEEL" SECTION FOR APPLICABLE CODES AND STANDARDS. IN ADDITION, COMPLY TO THE FOLLOWING:
- STEEL DECK INSTITUTE "STANDARD SPECIFICATIONS FOR FLOOR AND ROOF DECK"
  - AISI NORTH AMERICAN "SPECIFICATION FOR THE DESIGN OF COLD FORMED STEEL STRUCTURAL MEMBERS"
- B. SUBMITTALS:
- SHOP DRAWINGS INDICATING LAYOUT, MATERIAL, PROPERTIES OR LOAD TABLES, ANCHORAGE DETAILS, PANS, AND DECK ACCESSORIES.
  - PRODUCT DATA AND STRUCTURAL LOAD TABLES OF MECHANICAL FASTENERS, IF APPLICABLE.
- C. MATERIALS:
- GALVANIZED AND PRIME PAINTED STEEL SHEET: ASTM A 653, STRUCTURAL STEEL, GRADE 33, G90 ZINC COATING.
    - REFER TO PLANS AND DETAILS FOR MINIMUM PROFILE DEPTHS, THICKNESS, AND SECTION PROPERTIES PER FOOT WIDTH.
  - SPAN CONDITION: TRIPLE SPAN OR MORE WHERE POSSIBLE
- D. INSTALLATION:
- REFER TO TYPICAL DETAILS FOR PERIMETER AND SIDE LAP CONNECTION REQUIREMENTS.
  - WELDING WASHERS SHALL BE USED ON ALL METAL DECK WHICH IS 22 GA. OR LESS IN THICKNESS.
  - ALL WELDS AND BURN AREAS SHALL BE CLEANED AND PAINTED WITH APPROVED PRIMER OR GALVANIZING REPAIR PAINT AS REQUIRED.
  - THE CONTRACTOR SHALL PROVIDE SUPPORT FOR METAL DECK EDGES AT OPENINGS GREATER THAN 10 INCHES SQUARE. REFER TO TYPICAL DETAILS ON DRAWINGS FOR ADDITIONAL INFORMATION.
  - THE CONTRACTOR SHALL PROVIDE ALL ACCESSORIES NECESSARY TO PROPERLY INSTALL THE METAL DECK.

STEEL STAIRS:

- A. DESIGN OF STEEL STAIRS IS A DELEGATED DESIGN ITEMS AND SHALL BE PERFORMED BY GENRAL CONTRACTOR'S ENGINEER.
- B. REFER TO "STRUCTURAL STEEL" SECTION FOR APPLICABLE CODES AND STANDARDS.
- C. SUBMITTALS:
- THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS, SIGNED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER FOR ALL STEEL STAIRS.
- D. STRUCTURAL PERFORMANCE REQUIREMENTS:
- ALL STEEL STAIR FRAMING SHALL BE DESIGNED BY THE CONTRACTOR TO SUPPORT ALL DEAD LOADS PLUS A MINIMUM LIVE LOADING OF 100 PSF.
  - WHERE STEEL FRAMING BEARS ON MASONRY WALLS, PROVIDE STEEL BEARING PLATES AS REQUIRED TO LIMIT THE BEARING STRESS TO A MAXIMUM OF 25 PERCENT OF THE SPECIFIED COMPRESSIVE STRENGTH OF MASONRY.
- E. INSTALLATION:
- THE CONTRACTOR SHALL PROVIDE ALL STEEL HANGERS, CLIP ANGLES ETC. AS REQUIRED TO SUPPORT THE STAIR FRAMING.
- F. ALL STEEL STAIR FRAMING IN CONTACT WITH MASONRY OR CONCRETE SHALL BE GALVANIZED. OTHERWISE, STEEL MEMBERS FOR STEEL STAIRS SHALL BE UNGALVANIZED.

COLD FORMED METAL FRAMING:

- A. CODES AND STANDARDS:
- AISI'S "NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD FORMED STEEL STRUCTURAL MEMBERS" INCLUDING THE "STANDARD FOR COLD FORMED STEEL FRAMING".
- B. SUBMITTALS:
- SHOP DRAWINGS INDICATING THE SIZE, LOCATION, AND CONNECTION DETAILS FOR ALL MEMBERS, SIGNED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
  - CALCULATIONS FOR ALL COLD FORMED MEMBERS AND COMPONENTS INCLUDING MEMBER SIZE, GAUGE, LOCATION, CONNECTION, AND LATERAL BRACING DETAILS, SIGNED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
- C. MATERIALS:
- COLD FORMED METAL MEMBERS 16 GAUGE OR HEAVIER: ASTM A 446 WITH A MINIMUM YIELD STRENGTH OF 50 KSI.
  - GALVANIZING OF ALL COLD FORMED MEMBERS SHALL MEET THE REQUIREMENTS OF ASTM A 525 WITH A MINIMUM G60 COATING.
- D. STRUCTURAL PERFORMANCE REQUIREMENTS:
- ALL COLD FORMED METAL FRAMING AND CONNECTIONS SHALL BE DESIGNED, FABRICATED, AND ERECTED BY THE CONTRACTOR TO SUPPORT LOADS INDICATED IN "DESIGN LOADS" SECTION.
  - REFER TO PLANS AND DETAILS FOR MINIMUM SIZE AND SPACING FOR COLD FORMED METAL MEMBERS.
  - DEFLECTION LIMITS:
    - EXTERIOR NON-LOAD BEARING WALL FRAMING: HORIZONTAL DEFLECTION OF  $L/240$ .
- E. INSTALLATION:
- WELDING OF COLD FORMED METAL MEMBERS SHALL BE COMPLETED IN ACCORDANCE WITH AWS D1.1 AND AWS D1.3.
  - ALL COLD FORMED METAL MEMBERS SHALL BE SHEARED OR SAW CUT. CUTTING OF MEMBERS WITH A TORCH IS NOT PERMITTED.
  - SPICES IN COLD FORMED METAL MEMBERS ARE NOT PERMITTED UNLESS DETAILED ON THE CONTRACT DRAWINGS.
  - APPLY TWO COATS OF ZINC RICH PAINT AT ALL CUT ENDS AND WELDS.

MISCELLANEOUS:

- A. THE CONTRACTOR SHALL LOCATE ALL UTILITIES IN THE AREA OF CONSTRUCTION AND PREVENT DAMAGE TO THEM. SHOULD DAMAGE OCCUR TO ANY UTILITIES, THE CONTRACTOR IS REQUIRED TO REPAIR THE DAMAGE TO THE SATISFACTION OF THE OWNER AT THE CONTRACTOR'S EXPENSE.
- B. SHOP DRAWINGS FOR ALL STRUCTURAL ELEMENTS SHOWN ON THE CONTRACT DOCUMENTS MUST BE SUBMITTED BY THE CONTRACTOR OR OWNER FOR REVIEW BY THE ENGINEER. IF THE CONTRACTOR OR OWNER FAILS TO SUBMIT THE SHOP DRAWINGS, THE ENGINEER WILL NOT BE RESPONSIBLE FOR STRUCTURAL CERTIFICATION AND DESIGN OF THE PROJECT. THE SHOP DRAWINGS SHALL INDICATE ANY DEVIATIONS OR OMISSIONS FROM THE CONTRACT DOCUMENTS. THE GENERAL CONTRACTOR SHALL REVIEW ALL SHOP DRAWINGS PRIOR TO SUBMISSION AND MAKE ALL CORRECTIONS DEEMED NECESSARY.
- C. THE CONTRACTOR SHALL REVIEW THE ARCHITECTURAL, CIVIL, MECHANICAL, AND ELECTRICAL DRAWINGS FOR LOCATION AND DIMENSION OF CHASES, INSERTS, OPENINGS, SLEEVES, DEPRESSIONS AND OTHER PROJECT REQUIREMENTS WHICH IMPACT THE STRUCTURAL COMPONENTS.
- D. THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS SHOWN ON THE CONTRACT DRAWINGS BEFORE PROCEEDING WITH CONSTRUCTION.
- E. THE CONTRACTOR SHALL NOT SUBMIT REPRODUCTIONS OF THE STRUCTURAL CONTRACT DOCUMENTS AS SHOP DRAWINGS.
- F. SCALES SHOWN ON THE STRUCTURAL CONTRACT DRAWINGS ARE FOR GENERAL INFORMATION ONLY. DIMENSIONAL INFORMATION SHALL NOT BE OBTAINED BY SCALING THE DRAWINGS.

INSPECTION:

- A. ALL WORK SPECIFIED HEREIN SHALL BE INSPECTED IN ACCORDANCE WITH THE BUILDING CODE AND ALL LOCAL ORDINANCES. THE OWNER OR CONTRACTOR SHALL HIRE AN EXPERIENCED QUALIFIED INSPECTOR TO PERFORM ALL REQUIRED INSPECTION WORK. INSPECTION SHALL CONSIST OF VISUAL OBSERVATIONS OF MATERIALS, EQUIPMENT OR CONSTRUCTION WORK FOR THE PURPOSE OF ASCERTAINING THAT THE WORK IS IN SUBSTANTIAL CONFORMANCE WITH THE CONTRACT DOCUMENTS AND WITH THE DESIGN INTENT. THE ENGINEER WILL NOT PERFORM THE REQUIRED INSPECTION AS PART OF THIS PRESENT CONTRACT WITH THE OWNER. UNDER THIS PRESENT CONTRACT, THE ENGINEER MAY VISIT THE SITE TO ASCERTAIN GENERAL CONFORMANCE TO THE CONTRACT DOCUMENTS. HOWEVER, SUCH VISITS SHALL NOT BE RELIED UPON BY OTHERS AS ACCEPTANCE OF THE WORK, NOR SHOULD IT BE CONTRIBUED TO RELIEVE THE CONTRACTOR IN ANY WAY FROM HIS OBLIGATIONS AND RESPONSIBILITIES UNDER THE CONSTRUCTION CONTRACT.

SPECIAL INSPECTIONS:

- A. ALL SPECIAL INSPECTIONS SHOULD ABIDE BY IBC 2018 AND ALL SUBSEQUENT CODES TO ENSURE PROPER QUALITY CONTROL DURING CONSTRUCTION.
- B. IBC SECTION 1704.2 STATES:  
"THE OWNER OR THE OWNER'S AUTHORIZED AGENT, OTHER THAN THE CONTRACTOR, SHALL EMPLOY ONE OR MORE APPROVED AGENCIES TO PROVIDE SPECIAL INSPECTIONS AND TESTS DURING CONSTRUCTION ON THE TYPES OF WORK SPECIFIED IN IBC SECTION 1705 AND IDENTIFY THE APPROVED AGENCIES TO THE BUILDING OFFICIAL. THESE SPECIAL INSPECTIONS AND TESTS ARE IN ADDITION TO THE INSPECTIONS BY THE BUILDING OFFICIAL THAT ARE IDENTIFIED IN IBC SECTION 1703."

DESIGN WITHOUT CONSTRUCTION REVIEW:

- A. IT IS AGREED THAT IF KCI TECHNOLOGIES' PROFESSIONAL SERVICES DO NOT EXTEND TO OR INCLUDE THE REVIEW OR SITE OBSERVATION OF THE CONTRACTOR'S WORK OR PERFORMANCE, THEN THE OWNER WILL DEFEND, INDEMNIFY AND HOLD HARMLESS KCI TECHNOLOGIES FROM ANY CLAIM OR SUIT WHATSOEVER, INCLUDING BUT NOT LIMITED TO ALL PAYMENTS, EXPENSES OR COSTS INVOLVED, ARISING FROM OR ALLEGED TO HAVE ARISEN FROM THE CONTRACTOR'S PERFORMANCE OR THE FAILURE OF THE CONTRACTOR'S WORK TO CONFORM TO THE DESIGN INTENT AND THE CONTRACT DOCUMENTS. KCI TECHNOLOGIES AGREES TO BE RESPONSIBLE FOR ITS OWN OR ITS EMPLOYEES' NEGLIGENCE, ACTS, ERRORS OR OMISSIONS.

OWNERSHIP OF DOCUMENTS:

- A. THE CONTRACTOR ACKNOWLEDGES THESE PLANS AND SPECIFICATIONS PREPARED BY KCI TECHNOLOGIES AS INSTRUMENTS OF PROFESSIONAL SERVICE. NEVERTHELESS, THE PLANS AND SPECIFICATIONS PREPARED UNDER THIS AGREEMENT SHALL REMAIN THE PROPERTY OF KCI TECHNOLOGIES UPON COMPLETION OF THE WORK. THE CONTRACTOR AGREES TO HOLD HARMLESS AND INDEMNIFY KCI TECHNOLOGIES AGAINST ALL DAMAGES, CLAIMS, AND LOSSES, INCLUDING DEFENSE COSTS, ARISING OUT OF ANY REUSE OF THE PLANS AND SPECIFICATIONS WITHOUT THE WRITTEN AUTHORIZATION OF KCI TECHNOLOGIES.

SHEET

PROJECT DASH BUS FACILITY EXPANSION  
CITY OF ALEXANDRIA  
301 King Street, Alexandria, Virginia 22314

DRAWING STRUCTURAL GENERAL NOTES

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DATE 05/27/2025  
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DESIGNED CRS  
DRAWN DAL  
CHECKED

MARK REVISIONS  
DATE  
BY  
DES



| TASK, VERIFICATION AND INSPECTION TASK                                                                                                                                                     | FREQUENCY OF INSPECTIONS |          | REFERENCE CRITERIA |          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|----------|--------------------|----------|
|                                                                                                                                                                                            | CONTINUOUS               | PERIODIC | REF. STD.          | IBC REF. |
| STRUCTURAL STEEL                                                                                                                                                                           |                          |          | ASCE 360           | 1705.6   |
| 1. INSPECTION TASKS PRIOR TO WELDING                                                                                                                                                       |                          |          | ASCE 360: NE.4     |          |
| A. WELDING PROCEDURE SPECIFICATIONS (WPS) AVAILABLE:                                                                                                                                       | X                        | --       | --                 | --       |
| B. MANUFACTURER CERTIFICATIONS FOR WELDING CONSUMABLES AVAILABLE:                                                                                                                          | X                        | --       | --                 | --       |
| C. MATERIAL IDENTIFICATION (TYPE/GRADE):                                                                                                                                                   | --                       | X        | --                 | --       |
| D. WELDER IDENTIFICATION SYSTEM:                                                                                                                                                           | --                       | X        | --                 | --       |
| E. FIT-UP OF GROOVE WELDS (INCLUDING JOINT GEOMETRY):                                                                                                                                      |                          |          |                    |          |
| • JOINT PREPARATION                                                                                                                                                                        | --                       | --       | --                 | --       |
| • DIMENSIONS (ALIGNMENT, ROOF OPENINGS, ROOF FACE, BEVEL)                                                                                                                                  | --                       | X        | --                 | --       |
| • CLEANLINESS (CONDITION OF STEEL SURFACES)                                                                                                                                                | --                       | --       | --                 | --       |
| • TACKING (TACK WELD QUALITY AND LOCATION)                                                                                                                                                 | --                       | --       | --                 | --       |
| • BACKING TYPE AND FIT (IF APPLICABLE)                                                                                                                                                     | --                       | --       | --                 | --       |
| F. CONFIGURATION AND FINISH OF ACCESS HOLES:                                                                                                                                               | --                       | X        | --                 | --       |
| G. FIT-UP OF FLLET WELDS:                                                                                                                                                                  |                          |          |                    |          |
| • DIMENSIONS (ALIGNMENT, GAPS AT ROOT)                                                                                                                                                     | --                       | X        | --                 | --       |
| • CLEANLINESS (CONDITION OF STEEL SURFACE)                                                                                                                                                 | --                       | --       | --                 | --       |
| • TACKING (TACK WELD QUALITY AND LOCATION)                                                                                                                                                 | --                       | --       | --                 | --       |
| 2. INSPECTION TASKS DURING WELDING                                                                                                                                                         |                          |          | ASCE 360: NE.4     |          |
| A. USE OF QUALIFIED WELDERS:                                                                                                                                                               | --                       | X        | --                 | --       |
| B. CONTROL AND HANDLING OF WELDING CONSUMABLES:                                                                                                                                            |                          |          |                    |          |
| • PACKAGING                                                                                                                                                                                | --                       | X        | --                 | --       |
| • EXPOSURE                                                                                                                                                                                 | --                       | --       | --                 | --       |
| C. NO WELDING OVER CRACKED TACK WELDS:                                                                                                                                                     | --                       | X        | --                 | --       |
| D. ENVIRONMENTAL CONDITIONS:                                                                                                                                                               |                          |          |                    |          |
| • WIND SPEED WITH LIMITS                                                                                                                                                                   | --                       | X        | --                 | --       |
| • PRECIPITATION AND TEMPERATURE                                                                                                                                                            | --                       | --       | --                 | --       |
| E. WPS FOLLOWED:                                                                                                                                                                           |                          |          |                    |          |
| • SETTINGS ON WELDING EQUIPMENT                                                                                                                                                            | --                       | --       | --                 | --       |
| • TRAVEL SPEED                                                                                                                                                                             | --                       | --       | --                 | --       |
| • SELECTED WELDING MATERIALS                                                                                                                                                               | --                       | X        | --                 | --       |
| • SHIELDING GAS TYPE / FLOW RATE                                                                                                                                                           | --                       | --       | --                 | --       |
| • PREHEAT APPLIED                                                                                                                                                                          | --                       | --       | --                 | --       |
| • INTERPASS TEMPERATURE MAINTAINED (MIN / MAX)                                                                                                                                             | --                       | --       | --                 | --       |
| • PROPER POSITION (F, B, R, OH)                                                                                                                                                            | --                       | --       | --                 | --       |
| F. WELDING TECHNIQUES:                                                                                                                                                                     |                          |          |                    |          |
| • INTERPASS AND FINAL CLEANING                                                                                                                                                             | --                       | X        | --                 | --       |
| • EACH PASS WITH PROFILE LIMITATIONS                                                                                                                                                       | --                       | --       | --                 | --       |
| • EACH PASS MEETS QUALITY REQUIREMENTS                                                                                                                                                     | --                       | --       | --                 | --       |
| G. PLACEMENT AND INSTALLATION OF STEEL HEADED STUD ANCHORS:                                                                                                                                | X                        | --       | --                 | --       |
| 3. INSPECTION TASKS AFTER WELDING                                                                                                                                                          |                          |          | ASCE 360: NE.4     |          |
| A. WELDS CLEANED:                                                                                                                                                                          | --                       | X        | --                 | --       |
| B. SIZE, LENGTH AND LOCATIONS OF WELDS:                                                                                                                                                    | X                        | --       | --                 | --       |
| C. WELDS MEET VISUAL ACCEPTANCE CRITERIA:                                                                                                                                                  |                          |          |                    |          |
| • CRACK PROHIBITION                                                                                                                                                                        | --                       | --       | --                 | --       |
| • WELD / BASE METAL FUSION                                                                                                                                                                 | --                       | --       | --                 | --       |
| • CRACKER CROSS SECTION                                                                                                                                                                    | X                        | --       | --                 | --       |
| • WELD PROFILES                                                                                                                                                                            | --                       | --       | --                 | --       |
| • WELD SIZE                                                                                                                                                                                | --                       | --       | --                 | --       |
| • UNDERCUT                                                                                                                                                                                 | --                       | --       | --                 | --       |
| • POROSITY                                                                                                                                                                                 | --                       | --       | --                 | --       |
| D. ARC CRACKS:                                                                                                                                                                             | X                        | --       | --                 | --       |
| E. KAREA - WHEN WELDING OF DOUBLER PLATES, CONTINUITY PLATES OR STIFFENERS HAS BEEN PERFORMED IN THE KAREA, VISUALLY INSPECT THE WEB KAREA FOR CRACKS WITHIN 3 INCHES (75 mm) OF THE WELD: | X                        | --       | --                 | --       |
| F. BACKING REMOVED AND WELD TACKS REMOVED (IF REQUIRED):                                                                                                                                   | X                        | --       | --                 | --       |
| G. REPAIR ACTIVITIES:                                                                                                                                                                      | --                       | --       | --                 | --       |
| H. DOCUMENT ACCEPTANCE OR REJECTION OF WELDED JOINT OR MEMBER:                                                                                                                             | X                        | --       | --                 | --       |
| I. NO PROHIBITED WELDS HAVE BEEN ADDED WITHOUT EOR APPROVAL:                                                                                                                               | --                       | X        | --                 | --       |
| 4. INSPECTION TASKS PRIOR TO BOLTING                                                                                                                                                       |                          |          | ASCE 360: NE.6     |          |
| A. MANUFACTURER'S CERTIFICATIONS AVAILABLE FOR FASTENER MATERIALS:                                                                                                                         | X                        | --       | --                 | --       |
| B. FASTENERS MARKED IN ACCORDANCE WITH ASTM REQUIREMENTS:                                                                                                                                  | --                       | X        | --                 | --       |
| C. PROPER FASTENERS SELECTED FOR THE JOINT DETAIL (GRADE, TYPE, BOLT LENGTH & THREADS ARE TO BE EXCLUDED FROM SHEAR PLANE):                                                                | --                       | --       | --                 | --       |
| D. PROPER BOLTING PROCEDURE SELECTED FOR JOINT DETAIL:                                                                                                                                     | --                       | X        | --                 | --       |
| E. CONNECTING ELEMENTS INCLUDING THE APPROPRIATE PAYING SURFACE CONDITION AND HOLE PREPARATION (IF SPECIFIED, MEET APPLICABLE REQUIREMENTS:                                                | --                       | X        | --                 | --       |
| F. PRE-INSTALLATION VERIFICATION TESTING BY INSTALLATION PERSONNEL, OBSERVED AND DOCUMENTED FOR FASTENER ASSEMBLIES AND METHODS USED:                                                      | X                        | --       | --                 | --       |
| G. PROPER STORAGE PROVIDED FOR BOLTS, NUTS, WASHERS, AND OTHER FASTENER COMPONENTS:                                                                                                        | --                       | X        | --                 | --       |
| 5. INSPECTION TASKS DURING BOLTING                                                                                                                                                         |                          |          | ASCE 360: NE.6     |          |
| A. FASTENER ASSEMBLIES, OF SUITABLE CONDITION, PLACED IN ALL:                                                                                                                              |                          |          |                    |          |
| • HOLES AND WASHERS (IF REQUIRED) ARE POSITIONED AS REQUIRED                                                                                                                               | --                       | X        | --                 | --       |
| B. JOINT BROUGHT TO THE SNUG-TIGHT CONDITION PRIOR TO THE PRETENSIONING OPERATION:                                                                                                         | --                       | X        | --                 | --       |
| C. FASTENER COMPONENT NOT TURNED BY WRENCH PREVENTED FROM ROTATING:                                                                                                                        | --                       | X        | --                 | --       |
| D. FASTENERS ARE PRETENSIONED IN ACCORDANCE WITH THE RISC SPECIFICATION, PROGRESSING SYSTEMATICALLY FROM THE MOST RIGID POINT TOWARD THE FREE ENDS:                                        | --                       | X        | --                 | --       |
| E. INSPECTION TASKS AFTER BOLTING, DOCUMENT ACCEPTANCE OR REJECTION OF BOLTED CONNECTIONS:                                                                                                 | X                        | --       | ASCE 360: NE.6     |          |
| 7. INSPECTION OF STEEL ELEMENTS OF COMPOSITE CONSTRUCTION PRIOR TO CONCRETE PLACEMENT:                                                                                                     |                          |          | ASCE 360: NE.6     |          |
| A. PLACEMENT AND INSTALLATION OF STEEL DECK:                                                                                                                                               | X                        | --       | --                 | --       |
| B. PLACEMENT AND INSTALLATION OF STEEL HEADED STUD ANCHORS:                                                                                                                                | X                        | --       | --                 | --       |
| C. DOCUMENT ACCEPTANCE OR REJECTION OF STEEL ELEMENTS:                                                                                                                                     | X                        | --       | --                 | --       |

## SPECIAL INSPECTIONS NOTES

- THE GENERAL CONTRACTOR WILL ENGAGE (SEE CONTRACT REQUIREMENTS) THE SERVICES OF ONE OR MORE SPECIAL INSPECTORS TO PROVIDE INSPECTIONS DURING CONSTRUCTION ON WORK INDICATED IN THE SCHEDULE OF SPECIAL INSPECTIONS IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTER 17 OF THE IBC. SPECIAL INSPECTIONS AND TESTING SHALL BE PERFORMED ON A CONTINUOUS OR PERIODIC FREQUENCY AS NOTED IN THE SCHEDULE.
3. SCHEDULING FOR SPECIAL INSPECTIONS IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.
4. REFER TO THE GENERAL NOTES AND SPECIFICATIONS FOR ADDITIONAL INSPECTION AND TESTING REQUIREMENTS.
5. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF DISCREPANCIES ARE NOT CORRECTED, KCI TECHNOLOGIES PRIOR TO COMPLETION OF THAT PHASE OF THE WORK.
6. THE SPECIAL INSPECTOR SHALL SUBMIT INSPECTION REPORTS TO THE CONTRACTOR, ARCHITECT, OWNER AND KCI TECHNOLOGIES. REPORTS SHALL DOCUMENT REQUIRED INSPECTIONS AND CORRECTIONS OF ANY DISCREPANCIES. REPORTS SHALL BE PROVIDED AT INTERVALS CORRELATING THE PROGRESS OF CONSTRUCTION.

| TASK, VERIFICATION AND INSPECTION TASK                                                                          | FREQUENCY OF INSPECTIONS |          | REFERENCE CRITERIA                 |          |
|-----------------------------------------------------------------------------------------------------------------|--------------------------|----------|------------------------------------|----------|
|                                                                                                                 | CONTINUOUS               | PERIODIC | REF. STD.                          | IBC REF. |
| STEEL CONSTRUCTION OTHER THAN STRUCTURAL STEEL                                                                  |                          |          |                                    | 1705.2.2 |
| <b>A. MATERIAL VERIFICATION OF COLD FORMED STEEL MATERIAL</b>                                                   |                          |          | <b>S40002</b>                      |          |
| <b>1. IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS</b> | --                       | X        | APR CUBE ASTM MATERIAL STANDARDS   | --       |
| <b>B. MANUFACTURER'S CERTIFIED TEST REPORTS</b>                                                                 | --                       | X        |                                    | --       |
| <b>2. INSPECTION OF WELDING AND SCREWED CONNECTIONS</b>                                                         |                          |          |                                    |          |
| <b>A. COLD-FORMED METAL STUD WALLS</b>                                                                          | --                       | X        | ANSI E586-07/BS-18- AISI S206-07   | --       |
| <b>B. REINFORCING STEEL</b>                                                                                     |                          |          |                                    |          |
| <b>1. VERIFICATION OF YIELDABILITY OF REINFORCING STEEL OTHER THAN ASTM A706</b>                                | --                       | X        |                                    | --       |
| <b>2. REINFORCING STEEL RESISTING FLEXURAL AND AXIAL FORCES IN INTERMEDIATE AND SPECIAL MOMENT</b>              | X                        | --       |                                    | --       |
| <b>3. SHEAR REINFORCEMENT</b>                                                                                   | X                        | --       | ANSI D1.4<br>ACI 318 SECTION 3.5.2 | --       |
| <b>4. OTHER REINFORCEMENT</b>                                                                                   | --                       | X        |                                    | --       |

| TASK, VERIFICATION AND INSPECTION TASK                                                                                                                             | FREQUENCY OF INSPECTIONS |          | REFERENCE CRITERIA              |                        |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|----------|---------------------------------|------------------------|
|                                                                                                                                                                    | CONTINUOUS               | PERIODIC | REF. STD.                       | IBC REF.               |
| CONCRETE CONSTRUCTION                                                                                                                                              |                          |          | ACI 318                         | 1705.3                 |
| 1. INSPECTION OF REINFORCING STEEL AND PLACEMENT                                                                                                                   | --                       | X        | ACI 318: 2.4.7.1-2.7            | 1908.4                 |
| 2. INSPECTION OF REINFORCING STEEL WELDING IN ACCORDANCE WITH TABLE 1705.2.7, ITEM 1 (a)                                                                           | --                       | X        | AWS D1.4<br>ACI 318: 3.5.3      | --                     |
| 3. INSPECTION OF ANCHORS CAST IN CONCRETE WHERE ALLOWABLE LOADS HAVE BEEN INCREASED OR WHERE STRENGTH DESIGN IS USED                                               | --                       | X        | ACI 318: 17.8.2                 | --                     |
| 4. INSPECTION OF ANCHORS POST INSTALLED IN HARDENED CONCRETE                                                                                                       | --                       | X        | ACI 318: 17.8.2.4, 17.8.2       | --                     |
| 5. VERIFY USE OF REQUIRED DESIGN MIX                                                                                                                               | --                       | X        | ACI 318: CH. 16, 26.4.3, 26.4.4 | 1984.1, 1984.2.1       |
| 6. AT THE TIME FRESH CONCRETE IS SAMPLED TO FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF CONCRETE | X                        | --       | ASTM C 1190<br>ACI 318: 5.5.8   | 1910.10                |
| 7. INSPECTION OF CONCRETE AND SCHEDULE PREPARATION FOR PROPER APPLICATIONS TECHNIQUES                                                                              | X                        | --       | ACI 318: 5.5.1.10               | 1910.6, 1910.7, 1910.8 |
| 8. INSPECTION FOR MAINTENANCE OF SPECIFIC CURING TEMPERATURE AND TECHNIQUES                                                                                        | --                       | X        | ACI 318: 5.11.5, 5.13           | 1910.9                 |

| TASK, VERIFICATION AND INSPECTION TASK                                                                                                      | FREQUENCY OF INSPECTIONS |                            | REFERENCE CRITERIA    |                                         |                                                             |
|---------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|----------------------------|-----------------------|-----------------------------------------|-------------------------------------------------------------|
|                                                                                                                                             | CONTINUOUS               | PERIODIC                   | IBC REF.              | TMS 402<br>ACI 530<br>ASCE 6            | TMS 602<br>ACI 530.1<br>ASCE 6                              |
| MASONRY CONSTRUCTION LEVEL B                                                                                                                |                          |                            | 1705.4                |                                         |                                                             |
| 1. COMPLIANCE WITH REQUIRED INSPECTION PROVISIONS OF THE CONSTRUCTION DOCUMENTS AND THE APPROVED SUBMITTALS SHALL BE VERIFIED               | --                       | X                          | --                    | --                                      | ART. 1.5                                                    |
| 2. VERIFICATION OF <i>fn</i> AND <i>fpr</i> PRIOR TO CONSTRUCTION EXCEPT WHERE SPECIFICALLY EXEMPTED BY THE CODE                            | --                       | X                          | --                    | --                                      | ART. 1.4.B                                                  |
| 3. VERIFICATION OF SLUMP, FLOW AND VISUAL STABILITY INDEX (VSI) AS DELIVERED TO THE SITE FOR SELF-COMPLETING GROUT                          | X                        | --                         | --                    | --                                      | ART. 1.5B.1.B.3                                             |
| 4. AS MASONRY CONSTRUCTION BEGINS, THE FOLLOWING SHALL BE VERIFIED TO ENSURE COMPLIANCE:                                                    |                          |                            |                       |                                         |                                                             |
| A. PROPORTIONS OF SITE-PREPARED MORTAR                                                                                                      | --                       | X                          | --                    | --                                      | ART. 3.1.2.B.4                                              |
| B. CONSTRUCTION OF MORTAR JOINTS                                                                                                            | --                       | X                          | --                    | --                                      | ART. 3.3.B                                                  |
| C. PROPERTIES OF THIN-BED MORTAR FOR AAC MASONRY                                                                                            | X                        | X                          | --                    | --                                      | ART. 2.1.C                                                  |
|                                                                                                                                             | (FIRST 5000 SQ. FT.)     | (AFTER FIRST 5000 SQ. FT.) |                       |                                         |                                                             |
| 5. PRIOR TO GROUTING, THE FOLLOWING SHALL BE VERIFIED TO ENSURE COMPLIANCE:                                                                 |                          |                            |                       |                                         |                                                             |
| A. GROUT SPACE IS CLEAN                                                                                                                     | --                       | X                          | --                    | --                                      | ART. 3.2D.3.2.F                                             |
| B. GRADE, TYPE AND SIZE OF REINFORCEMENT AND ANCHOR BOLTS                                                                                   | --                       | X                          | --                    | SEC. 1.16                               | ART. 2.4.3.4                                                |
| C. PLACEMENT OF REINFORCEMENT AND CONNECTORS                                                                                                | --                       | X                          | --                    | SEC. 1.16                               | ART. 3.4.3.2.3.B.6                                          |
| D. PROPORTIONS OF SITE-PREPARED GROUT                                                                                                       | --                       | X                          | --                    | --                                      | ART. 2.6.B.2.4.G.1.b                                        |
| E. CONSTRUCTION OF MORTAR JOINTS                                                                                                            | --                       | X                          | --                    | --                                      | ART. 3.3.B                                                  |
| 6. DURING CONSTRUCTION THE FOLLOWING SHALL BE VERIFIED:                                                                                     |                          |                            |                       |                                         |                                                             |
| A. SIZE AND LOCATION OF STRUCTURAL ELEMENTS                                                                                                 | --                       | X                          | --                    | --                                      | ART. 3.3.F                                                  |
| B. TYPE, SIZE AND LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES OR OTHER CONSTRUCTION  | --                       | X                          | --                    | SEC. 1.16.4.3.1.7.1                     | --                                                          |
| C. WELDING OF REINFORCING BARS                                                                                                              | X                        | --                         | --                    | SEC. 2.11.8.7.2, 3.3.3.6(c), 3.3.3.4(b) | --                                                          |
| D. PREPARATION, CONSTRUCTION AND PROTECTION OF MASONRY DURING COLD WEATHER (TEMPERATURE BELOW 40°F) OR HOT WEATHER (TEMPERATURE ABOVE 90°F) | --                       | X                          | SEC. 2104.3, 2104.4   | --                                      | ART. 1.4.C.1.9.D                                            |
| E. PLACEMENT OF AAC MASONRY UNITS AND CONSTRUCTION OF THIN-BED MORTAR JOINTS                                                                | X                        | X                          | --                    | --                                      | ART. 3.3.B.8                                                |
|                                                                                                                                             | (FIRST 5000 SQ. FT.)     | (AFTER FIRST 5000 SQ. FT.) |                       |                                         |                                                             |
| F. VERTICAL PREPARATION OF GROUT SPECIMENS, MORTAR SPECIMENS AND/OR PRISMS                                                                  | --                       | X                          | SEC. 2105.2.2, 2105.3 | --                                      | ART. 1.4.2.b.3, 1.4.2.b.3.3, 1.4.2.b.3.3.1, 1.4.2.b.3.3.1.4 |
| 7. GENERAL MASONRY FOUNDATION ELEMENTS                                                                                                      |                          |                            | 1705.4                |                                         |                                                             |

| TASK, VERIFICATION AND INSPECTION TASK                                                                            | FREQUENCY OF INSPECTIONS |          | REFERENCE CRITERIA |          |
|-------------------------------------------------------------------------------------------------------------------|--------------------------|----------|--------------------|----------|
|                                                                                                                   | CONTINUOUS               | PERIODIC | REF. STD.          | IBC REF. |
| SOILS                                                                                                             |                          |          |                    | 1705.6   |
| 1. CONTROLLED FILL PLACED UNDER AFTI PERMIT                                                                       | --                       | --       | --                 | --       |
| 2. CONTROLLED FILL PLACED UNDER THE BUILDING PERMIT                                                               | X                        | --       | --                 | --       |
| 3. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY                 | --                       | X        | --                 | --       |
| 4. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL                               | --                       | X        | --                 | --       |
| 5. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS                                                 | --                       | X        | --                 | --       |
| 6. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESS DURING PLACEMENT AND COMPACTION OF COMPACTED FILL | X                        | --       | --                 | --       |
| 7. PRIOR TO PLACEMENT OF COMPACTED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY         | --                       | X        | --                 | --       |
| 8. VERIFY INSTALLATION OF DRAIN TILE (GRAVITY/MECHANICAL)                                                         | --                       | X        | --                 | --       |

|         |                                                                   |  |       |
|---------|-------------------------------------------------------------------|--|-------|
| PROJECT | DASH BUS FACILITY EXPANSION                                       |  | SHEET |
|         | CITY OF ALEXANDRIA<br>301 King Street, Alexandria, Virginia 22314 |  |       |
| DRAWING | SPECIAL INSPECTIONS                                               |  | S-003 |
|         |                                                                   |  |       |

| MASONRY REINFORCING LAP LENGTH SCHEDULE   |               |
|-------------------------------------------|---------------|
| TENSION OR COMPRESSION LAP SPlice LENGTHS |               |
| BAR SIZE                                  | SPlice LENGTH |
| #3                                        | 18"           |
| #4                                        | 24"           |
| #5                                        | 30"           |

NOTES:  
1. "SIDE LAP" ALL LAP SPliced TO PROVIDE MAXIMUM MOMENT CAPACITY.  
2. WHEN BARS OF DIFFERENT DIAMETER ARE LAP SPliced, USE THE SPlice LENGTH OF THE LARGER BAR.

| COMPRESSION LAP SPICES AND DEVELOPMENT FOR REINFORCING BARS |                                         |                                 |                                   |
|-------------------------------------------------------------|-----------------------------------------|---------------------------------|-----------------------------------|
| STEEL GRADE (KSI)                                           | CONCRETE COMPRESSION STRENGTH ( $f_c$ ) | LAP SPlice IN $d_b \geq 12$ IN. | DEVELOPMENT IN $d_b$ (8 IN. MIN.) |
| 40                                                          | 3000                                    | 20                              | 15                                |
|                                                             | 4000                                    | 20                              | 13                                |
|                                                             | 5000                                    | 20                              | 12                                |
|                                                             | 3000                                    | 25                              | 15                                |
| 50                                                          | 4000                                    | 25                              | 16                                |
|                                                             | 5000                                    | 25                              | 15                                |
|                                                             | 3000                                    | 30                              | 22                                |
|                                                             | 4000                                    | 30                              | 19                                |
| 75                                                          | 5000                                    | 30                              | 18                                |
|                                                             | 3000                                    | 44                              | 28                                |
|                                                             | 4000                                    | 44                              | 24                                |
|                                                             | 5000                                    | 44                              | 23                                |

NOTES:  
1. LINEAR INTERPOLATION FOR CONCRETE STRENGTHS NOT LISTED ON THIS CHART IS PERMITTED.  
2. FOR EPOXY-COATED REBAR: MULTIPLY THE SPlice AND DEVELOPMENT LENGTHS ABOVE BY 1.3.

| TENSION LAP SPICES AND DEVELOPMENT: LENGTHS (IN.) PER CONCRETE STRENGTH (PSI) |           |          |        |            |        |          |        |            |        |
|-------------------------------------------------------------------------------|-----------|----------|--------|------------|--------|----------|--------|------------|--------|
| BAR SIZE                                                                      | LAP CLASS | 3000 PSI |        |            |        | 4000 PSI |        |            |        |
|                                                                               |           | TOP BARS |        | OTHER BARS |        | TOP BARS |        | OTHER BARS |        |
|                                                                               |           | CASE 1   | CASE 2 | CASE 1     | CASE 2 | CASE 1   | CASE 2 | CASE 1     | CASE 2 |
| #3                                                                            | A         | 22       | 32     | 17         | 25     | 19       | 28     | 15         | 22     |
|                                                                               | B         | 28       | 42     | 22         | 32     | 24       | 36     | 19         | 28     |
| #4                                                                            | A         | 29       | 43     | 22         | 33     | 25       | 37     | 19         | 29     |
|                                                                               | B         | 37       | 56     | 29         | 43     | 32       | 48     | 25         | 37     |
| #5                                                                            | A         | 36       | 54     | 28         | 41     | 31       | 47     | 24         | 36     |
|                                                                               | B         | 47       | 70     | 36         | 54     | 40       | 60     | 31         | 47     |
| #6                                                                            | A         | 43       | 64     | 33         | 50     | 37       | 56     | 29         | 43     |
|                                                                               | B         | 56       | 84     | 43         | 64     | 48       | 72     | 37         | 56     |
| #7                                                                            | A         | 63       | 94     | 48         | 72     | 54       | 81     | 42         | 63     |
|                                                                               | B         | 81       | 122    | 63         | 94     | 70       | 106    | 54         | 81     |
| #8                                                                            | A         | 72       | 107    | 55         | 82     | 62       | 93     | 49         | 71     |
|                                                                               | B         | 93       | 139    | 72         | 107    | 80       | 121    | 62         | 93     |
| #9                                                                            | A         | 81       | 121    | 62         | 93     | 70       | 105    | 54         | 81     |
|                                                                               | B         | 105      | 157    | 81         | 121    | 91       | 136    | 70         | 105    |
| #10                                                                           | A         | 91       | 136    | 70         | 105    | 79       | 118    | 61         | 91     |
|                                                                               | B         | 118      | 177    | 91         | 136    | 102      | 153    | 79         | 118    |
| #11                                                                           | A         | 101      | 151    | 78         | 116    | 87       | 131    | 67         | 101    |
|                                                                               | B         | 131      | 196    | 101        | 151    | 113      | 170    | 87         | 131    |
| #14                                                                           | N/A       | 121      | 181    | 93         | 139    | 105      | 157    | 81         | 121    |
|                                                                               | N/A       | 161      | 241    | 124        | 184    | 139      | 209    | 107        | 161    |
| #18                                                                           | N/A       |          |        |            |        |          |        |            |        |
|                                                                               | N/A       |          |        |            |        |          |        |            |        |

NOTES:  
1. LINEAR INTERPOLATION FOR CONCRETE STRENGTHS NOT LISTED ON THIS CHART IS PERMITTED.  
2. FOR EPOXY-COATED REBAR: MULTIPLY THE SPlice AND DEVELOPMENT LENGTHS ABOVE BY 1.3.

### CONCRETE FOOTING SCHEDULE

| MARK | SIZE            | DEPTH | BOTTOM REINFORCING |               | TOP REINFORCING |            | REMARKS |
|------|-----------------|-------|--------------------|---------------|-----------------|------------|---------|
|      |                 |       | LONG BARS          | SHORT BARS    | LONG BARS       | SHORT BARS |         |
| F80  | 8'-0" x 8'-0"   | 18"   | (6)#6              | (6)#6         | N/A             | N/A        |         |
| F80  | 8'-0" x 8'-0"   | 22"   | (9)#6              | (9)#6         | N/A             | N/A        |         |
| F100 | 10'-0" x 10'-0" | 27"   | (10)#7             | (10)#7        | N/A             | N/A        |         |
| F130 | 13'-0" x 13'-0" | 33"   | (12)#9             | (12)#9        | (12)#9          | (12)#9     |         |
| WF30 | 3'-0" WIDE      | 12"   | (4)#5              | #5 @ 24" O.C. | N/A             | N/A        |         |

### COLUMN SCHEDULE

| LEVEL                                  | COLUMN NUMBER | A-2 A-5               | A-3 A-4               | B-2 B-5                | B-3 B-4                | C-2 C-5                | C-3 C-4                | D-2 D-5               | D-3 D-4               |
|----------------------------------------|---------------|-----------------------|-----------------------|------------------------|------------------------|------------------------|------------------------|-----------------------|-----------------------|
| CANOPY ROOF<br>EL. 34.75               |               |                       |                       |                        |                        |                        |                        |                       |                       |
| EQUIPMENT PLATFORM<br>EL. 26.71        |               |                       |                       |                        |                        |                        |                        |                       |                       |
| LOW END OF LOW ROOF<br>EL. 20.21       |               | W14X90                | W14X90                | W14X100                | W14X145                | W14X100                | W14X145                | W14X90                | W14X90                |
| FIRST FLOOR<br>EL. 00.00               |               |                       |                       |                        |                        |                        |                        |                       |                       |
| BASE PLATE SIZE                        |               | 22"x11"x1-10"         | 22"x11"x1-10"         | 27"x3"x2-3"            | 27"x3"x2-3"            | 27"x3"x2-3"            | 27"x3"x2-3"            | 22"x11"x1-10"         | 22"x11"x1-10"         |
| LEVEL PLATE SIZE                       |               | 22"x14"x1-10"         | 22"x14"x1-10"         | 27"x14"x2-3"           | 27"x14"x2-3"           | 27"x14"x2-3"           | 27"x14"x2-3"           | 22"x14"x1-10"         | 22"x14"x1-10"         |
| ELEVATION TOP OF LEVEL PLATE           |               | -2.23                 | -2.23                 | -1.56                  | -1.56                  | -1.56                  | -1.56                  | -0.90                 | -0.90                 |
| DETAIL (REFER TO S-203)                |               | A                     | A                     | B                      | B                      | B                      | B                      | A                     | A                     |
| ANCHOR BOLT QUANTITY, SIZE, AND EMBED. |               | (4)-3/4"x8"           | (4)-3/4"x8"           | (6)-1 1/2"x8"          | (6)-1 1/2"x8"          | (6)-1 1/2"x8"          | (6)-1 1/2"x8"          | (4)-3/4"x8"           | (4)-3/4"x8"           |
| ANCHOR BOLT STEEL GRADE                |               | ASTM F-1554, GRADE 55 | ASTM F-1554, GRADE 55 | ASTM F-1554, GRADE 105 | ASTM F-1554, GRADE 105 | ASTM F-1554, GRADE 105 | ASTM F-1554, GRADE 105 | ASTM F-1554, GRADE 55 | ASTM F-1554, GRADE 55 |

COLUMN SCHEDULE NOTES:  
• FOR ORIENTATION OF COLUMNS, BASE PLATES, AND LEVEL PLATES, THE FIRST DIMENSION GIVEN IN THE COLUMN SCHEDULE IS IN THE NORTH/SOUTH DIRECTION.  
• REFER TO SHEET S-203 FOR BASE PLATE DETAILS.  
• ALL BASE PLATES SHALL BE 50 KSI STEEL.  
• ANCHOR ROD DIMENSION LISTED IN COLUMN SCHEDULE IS THE REQUIRED EMBEDMENT LENGTH INTO FOUNDATION. TOTAL ANCHOR ROD LENGTH MUST PROVIDE THIS MINIMUM EMBEDMENT PLUS ALLOWANCE FOR INSTALLATION AS PER BASE PLATE DETAILS.  
• ENCASE COLUMN FULL HEIGHT IN CONCRETE. SEE DETAILS ON S-203 FOR ADDITIONAL INFORMATION AND REQUIREMENTS AT ENCASEMENT.

### INTEL SCHEDULE

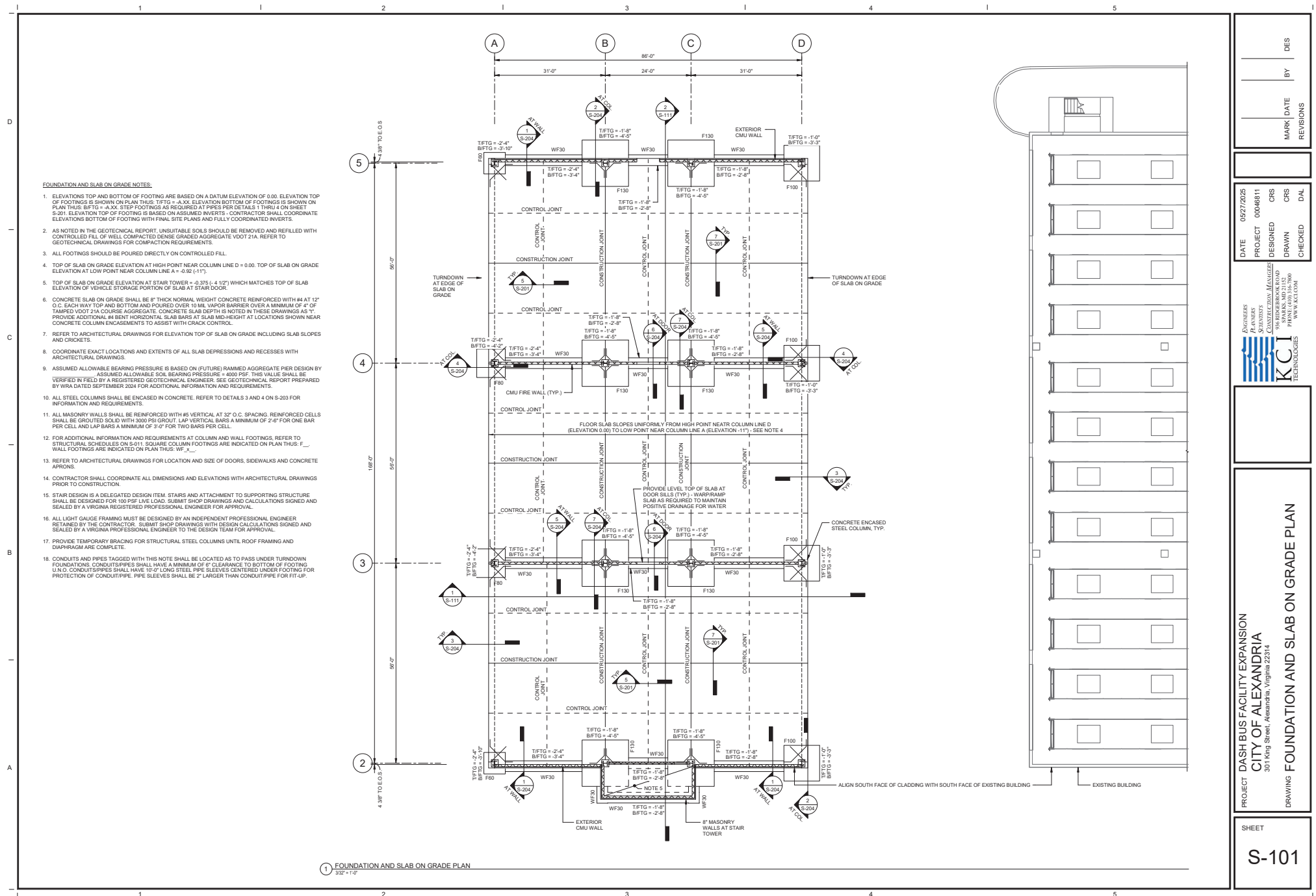
| MARK | SIZE AT WALL                                      | SIZE AT VENEER | SPAN                           |
|------|---------------------------------------------------|----------------|--------------------------------|
| ML-1 | (1) 1/4" x 3 1/2" x 3/8" FOR EACH 4" OF CMU WIDTH | NOT APPLICABLE | SEE PLAN AND UP TO 7'-0" CLEAR |

NOTES:  
1) ALL INTELS BEARING AT MASONRY WALLS OR BRICK SHALL HAVE 8" MINIMUM BEARING AT EACH END UNLESS NOTED OTHERWISE. PROVIDE 24" LONG x 24" MIN. DEEP SOLID BEARING AT END OF INTEL AT MASONRY WALL. SOLID INTEL BEARING SHALL CONSIST OF HOLLOW BLOCK FILLED SOLID W/ GROUT, TYPICAL.  
2) REFER TO TYPICAL METAL STUD DETAILS ON S-401 FOR ADDITIONAL INFORMATION AND REQUIREMENTS AT METAL STUD INTELS, BUILT-UP MEMBERS, AND TYPICAL CONNECTIONS.  
3) PROVIDE INTELS OVER ALL OPENINGS PER ABOVE, INCLUDING DOORS, WINDOWS, DUCTS LOUVERS, RECESSES, AND OTHER OPENINGS. CONTRACTOR SHALL FIELD COORDINATE ALL OPENING LOCATIONS WITH INTEL PROVIDER.  
4) FOR DIMENSIONS AND LOCATION OF OPENINGS, SEE ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS.  
5) WRAP END OF INTELS IN BUILDING PAPER AT CONTROL JOINTS.  
6) ALL INTELS EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED.  
7) INTELS AT EXTERIOR METAL STUD WALLS (IF APPLICABLE) SHALL BE AS FOLLOWS. REFER TO ARCHITECTURAL DETAILS FOR ADDITIONAL INFORMATION:



LGMS BOX INTEL, IF APPLICABLE TO BE DESIGNED BY LGMS ENGINEER





PROJECT DASH BUS FACILITY EXPANSION  
CITY OF ALEXANDRIA  
301 King Street, Alexandria, Virginia 22314

SHEET

S-101

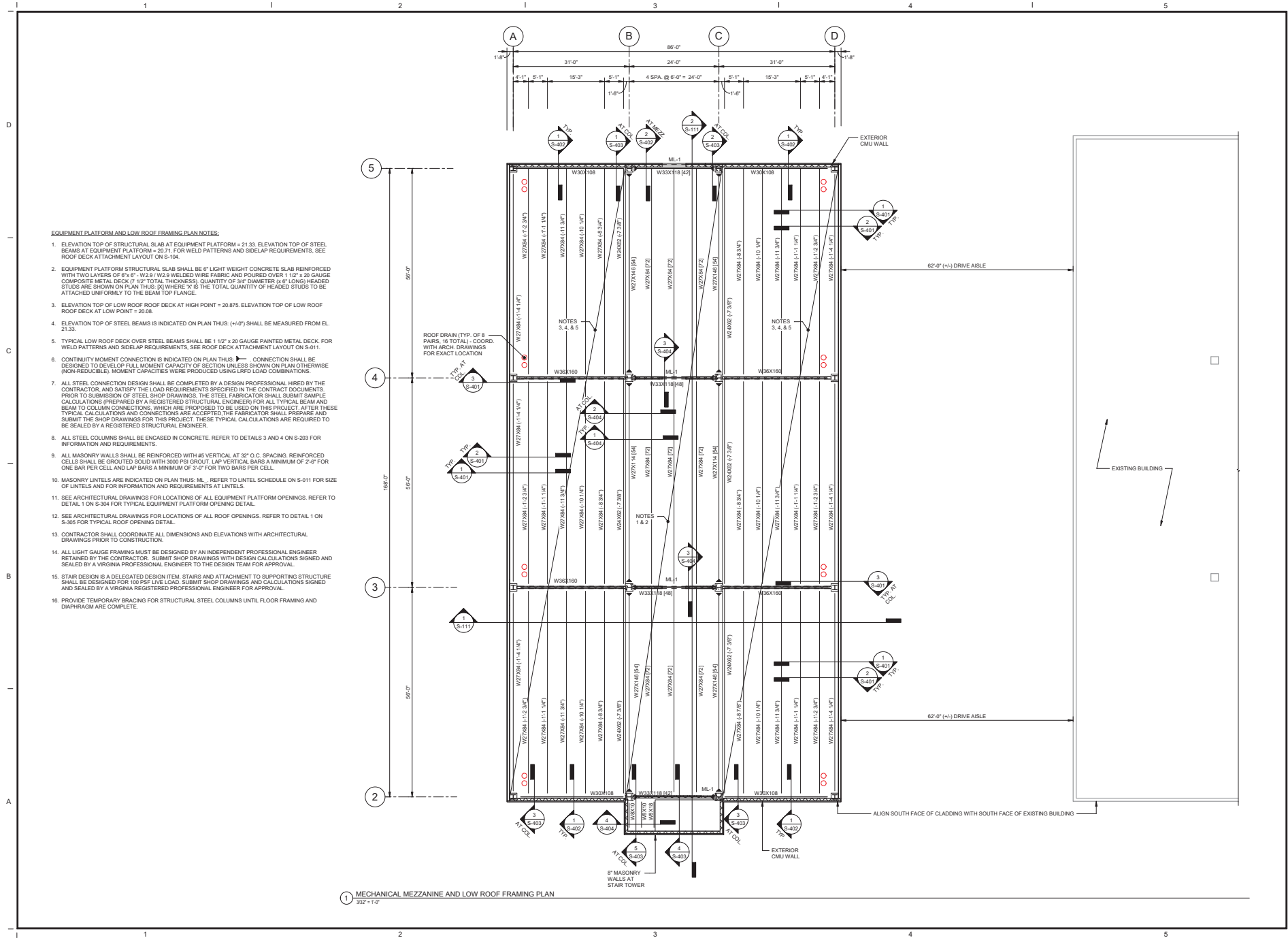
DRAWING FOUNDATION AND SLAB ON GRADE PLAN



ENGINEERS  
PLANNERS  
SURVEYORS  
KCI TECHNOLOGIES  
904 RICHMOND ROAD  
SPARKS, MD 21152  
703.426.8000  
WWW.KCI.COM

DATE 05/27/2025  
PROJECT 00046811  
DESIGNED CRS  
DRAWN CRS  
CHECKED DAL

MARK DATE  
BY DES  
REVISIONS



1 MECHANICAL MEZZANINE AND LOW ROOF FRAMING PLAN  
302'-1'-0"

**EQUIPMENT PLATFORM AND LOW ROOF FRAMING PLAN NOTES:**

- ELEVATION TOP OF STRUCTURAL SLAB AT EQUIPMENT PLATFORM = 21.33. ELEVATION TOP OF STEEL BEAMS AT EQUIPMENT PLATFORM = 20.71. FOR WELD PATTERNS AND SLOPE REQUIREMENTS, SEE ROOF DECK ATTACHMENT LAYOUT ON S-104.
- EQUIPMENT PLATFORM STRUCTURAL SLAB SHALL BE 6" LIGHT WEIGHT CONCRETE SLAB REINFORCED WITH TWO LAYERS OF #4 @ 12" W/2" W/2" WELDED WIRE FABRIC AND POURED OVER 1" 12" x 20 GAUGE COMPOSITE METAL DECK (7 1/2" TOTAL THICKNESS). QUANTITY OF 3/4" DIAMETER (x 8" LONG) HEADED STUDS ARE SHOWN ON PLAN THIS. (X) WHERE X IS THE TOTAL QUANTITY OF HEADED STUDS TO BE ATTACHED UNIFORMLY TO THE BEAM TOP FLANGE.
- ELEVATION TOP OF LOW ROOF ROOF DECK AT HIGH POINT = 20.875. ELEVATION TOP OF LOW ROOF ROOF DECK AT LOW POINT = 20.08.
- ELEVATION TOP OF STEEL BEAMS IS INDICATED ON PLAN THIS: (+/-) SHALL BE MEASURED FROM EL. 21.33.
- TYPICAL LOW ROOF ROOF DECK OVER STEEL BEAMS SHALL BE 1 1/2" x 20 GAUGE PAINTED METAL DECK FOR WELD PATTERNS AND SLOPE REQUIREMENTS. SEE ROOF DECK ATTACHMENT LAYOUT ON S-011.
- CONTINUITY MOMENT CONNECTION IS INDICATED ON PLAN THIS: CONNECTION SHALL BE DESIGNED TO DEVELOP FULL MOMENT CAPACITY OF SECTION UNLESS SHOWN ON PLAN OTHERWISE (NON-REDUCIBLE) MOMENT CAPACITIES WERE PROVIDED USING LRFD LOAD COMBINATIONS.
- ALL STEEL CONNECTION DESIGN SHALL BE COMPLETED BY A DESIGN PROFESSIONAL HIRED BY THE CONTRACTOR, AND SATISFY THE LOAD REQUIREMENTS SPECIFIED IN THE CONTRACT DOCUMENTS. PRIOR TO SUBMISSION OF STEEL SHOP DRAWINGS, THE STEEL FABRICATOR SHALL SUBMIT SAMPLE CALCULATIONS (PREPARED BY A REGISTERED STRUCTURAL ENGINEER) FOR ALL TYPICAL BEAM AND BEAM TO COLUMN CONNECTIONS, WHICH ARE PROPOSED TO BE USED ON THIS PROJECT. AFTER THESE TYPICAL CALCULATIONS AND CONNECTIONS ARE ACCEPTED, THE FABRICATOR SHALL PREPARE AND SUBMIT THE SHOP DRAWINGS FOR THIS PROJECT. THESE TYPICAL CALCULATIONS ARE REQUIRED TO BE SEALED BY A REGISTERED STRUCTURAL ENGINEER.
- ALL STEEL COLUMNS SHALL BE ENCASED IN CONCRETE. REFER TO DETAILS 3 AND 4 ON S-203 FOR INFORMATION AND REQUIREMENTS.
- ALL MASONRY WALLS SHALL BE REINFORCED WITH #5 VERTICAL AT 32" O.C. SPACING. REINFORCED CELLS SHALL BE GROUTED SOLID WITH 3000 PSI GROUT. LAP VERTICAL BARS A MINIMUM OF 2'-4" FOR ONE BAR PER CELL AND LAP BARS A MINIMUM OF 5'-0" FOR TWO BARS PER CELL.
- MASONRY LINTELS ARE INDICATED ON PLAN THIS: ML. REFER TO LINTEL SCHEDULE ON S-011 FOR SIZE OF LINTELS AND FOR INFORMATION AND REQUIREMENTS AT LINTELS.
- SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS OF ALL EQUIPMENT PLATFORM OPENINGS. REFER TO DETAIL 1 ON S-304 FOR TYPICAL EQUIPMENT PLATFORM OPENING DETAIL.
- SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS OF ALL ROOF OPENINGS. REFER TO DETAIL 1 ON S-305 FOR TYPICAL ROOF OPENING DETAIL.
- CONTRACTOR SHALL COORDINATE ALL DIMENSIONS AND ELEVATIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION.
- ALL LIGHT GAUGE FRAMING MUST BE DESIGNED BY AN INDEPENDENT PROFESSIONAL ENGINEER RETAINED BY THE CONTRACTOR. SUBMIT SHOP DRAWINGS WITH DESIGN CALCULATIONS SIGNED AND SEALED BY A VIRGINIA PROFESSIONAL ENGINEER TO THE DESIGN TEAM FOR APPROVAL.
- STAR DESIGN IS A DELEGATED DESIGN ITEM. STARS AND ATTACHMENT TO SUPPORTING STRUCTURE SHALL BE DESIGNED FOR 100 PSF LIVE LOAD. SUBMIT SHOP DRAWINGS AND CALCULATIONS SIGNED AND SEALED BY A VIRGINIA REGISTERED PROFESSIONAL ENGINEER FOR APPROVAL.
- PROVIDE TEMPORARY BRACING FOR STRUCTURAL STEEL COLUMNS UNTIL FLOOR FRAMING AND DIAPHRAGM ARE COMPLETE.

| DATE       | PROJECT  | DESIGN | CHECKED | DRAWN | CRS | BY | DES |
|------------|----------|--------|---------|-------|-----|----|-----|
| 05/27/2025 | 00048811 | CRS    | DAL     |       |     |    |     |

| DATE       | PROJECT  | DESIGN | CHECKED | DRAWN | CRS | BY | DES |
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| 05/27/2025 | 00048811 | CRS    | DAL     |       |     |    |     |

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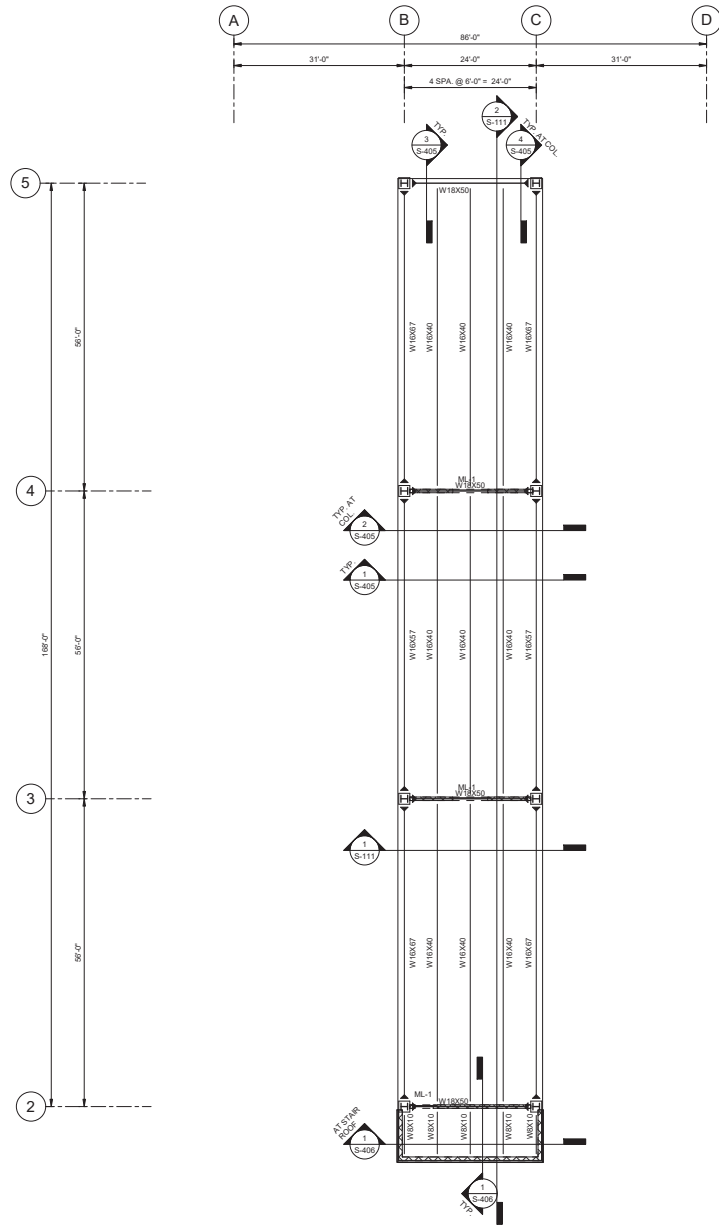
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**CANOPY ROOF FRAMING PLAN NOTES:**

- ELEVATION TOP OF ROOF DECK = 34.875. TYPICAL ROOF DECK OVER STEEL BEAMS SHALL BE 1 1/2" x 20 GAUGE PAINTED METAL DECK. FOR WELD PATTERNS AND SIDELAP REQUIREMENTS, SEE ROOF DECK ATTACHMENT LAYOUT ON S-104.
- ELEVATION TOP OF STEEL BEAMS AND GIRDERS = 34.75.
- CONTINUITY MOMENT CONNECTION IS INDICATED ON PLAN THUS:  CONNECTION SHALL BE DESIGNED TO DEVELOP FULL MOMENT CAPACITY OF SECTION UNLESS SHOWN ON PLAN OTHERWISE (NON-REDUCIBLE). MOMENT CAPACITIES WERE PRODUCED USING LRFD LOAD COMBINATIONS.
- ALL STEEL CONNECTION DESIGN SHALL BE COMPLETED BY A DESIGN PROFESSIONAL HIRED BY THE CONTRACTOR, AND SATISFY THE LOAD REQUIREMENTS SPECIFIED IN THE CONTRACT DOCUMENTS. PRIOR TO SUBMISSION OF STEEL SHOP DRAWINGS, THE STEEL FABRICATOR SHALL SUBMIT SAMPLE CALCULATIONS PREPARED BY A REGISTERED STRUCTURAL ENGINEER (FOR ALL TYPICAL BEAM AND BEAM TO COLUMN CONNECTIONS, WHICH ARE PROPOSED TO BE USED ON THIS PROJECT. AFTER THESE TYPICAL CALCULATIONS AND CONNECTIONS ARE ACCEPTED, THE FABRICATOR SHALL PREPARE AND SUBMIT THE SHOP DRAWINGS FOR THIS PROJECT. THESE TYPICAL CALCULATIONS ARE REQUIRED TO BE SEALED BY A REGISTERED STRUCTURAL ENGINEER.
- SEE ARCHITECTURAL DRAWINGS FOR WORKING POINTS AND PITCHES OF ALL SLOPED INSULATION. VERIFY ALL DIMENSIONS PRIOR TO FABRICATION.
- SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS OF ALL ROOF OPENINGS. REFER TO DETAIL 1 ON S-305 FOR TYPICAL ROOF OPENING DETAIL.
- ALL STEEL COLUMNS SHALL BE ENCASED IN CONCRETE. REFER TO DETAILS 3 AND 4 ON S-203 FOR INFORMATION AND REQUIREMENTS.
- ALL MASONRY WALLS SHALL BE REINFORCED WITH #5 VERTICAL AT 32" O.C. SPACING. REINFORCED CELLS SHALL BE GROUTED SOLID WITH 3000 PSI GROUT. LAP VERTICAL BARS A MINIMUM OF 2'-0" FOR ONE BAR PER CELL AND LAP BARS A MINIMUM OF 3'-0" FOR TWO BARS PER CELL.
- CONTRACTOR SHALL COORDINATE ALL DIMENSIONS AND ELEVATIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION.
- ALL LIGHT GAUGE FRAMING MUST BE DESIGNED BY AN INDEPENDENT PROFESSIONAL ENGINEER RETAINED BY THE CONTRACTOR. SUBMIT SHOP DRAWINGS WITH DESIGN CALCULATIONS SIGNED AND SEALED BY A VIRGINIA PROFESSIONAL ENGINEER TO THE DESIGN TEAM FOR APPROVAL.
- PROVIDE TEMPORARY BRACING FOR STRUCTURAL STEEL COLUMNS UNTIL ROOF FRAMING AND DIAPHRAGM ARE COMPLETE.
- STAIR DESIGN IS A DELEGATED DESIGN ITEM. STAIRS AND ATTACHMENT TO SUPPORTING STRUCTURE SHALL BE DESIGNED FOR 100 PSF LIVE LOAD. SUBMIT SHOP DRAWINGS AND CALCULATIONS SIGNED AND SEALED BY A VIRGINIA REGISTERED PROFESSIONAL ENGINEER FOR APPROVAL.



1 CANOPY ROOF FRAMING PLAN  
3/2" = 1'-0"

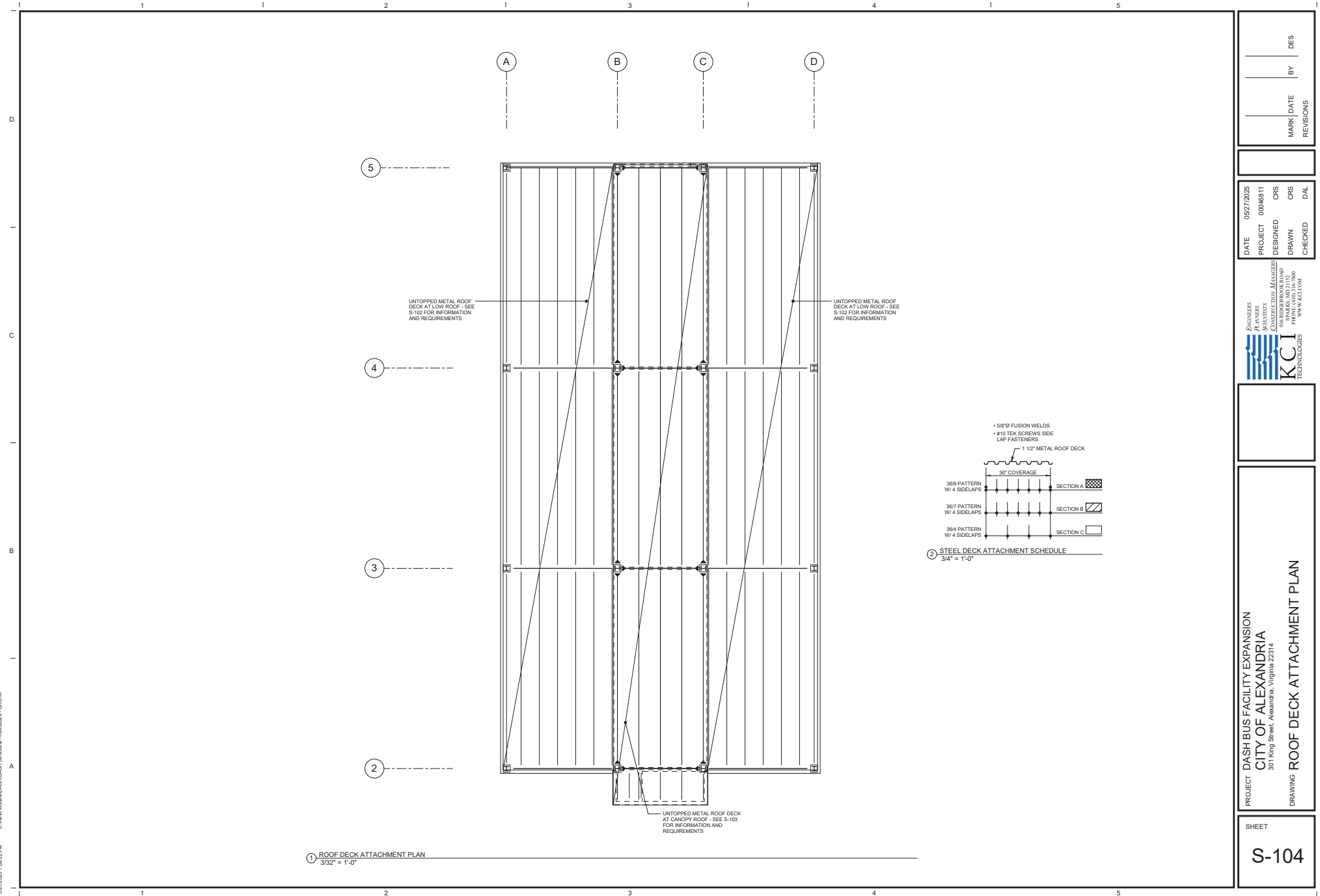
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| DATE       | PROJECT  | DESIGNED | CRS | DAL |
|------------|----------|----------|-----|-----|
| 05/27/2025 | 00048811 |          |     |     |

**ENGINEERS**  
PLANNERS  
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TECHNOLOGIES  
1000 HIGHLAND AVENUE  
SPARKS, MD 21152  
PHONE: 410.326.8000  
WWW.KCI.COM

**PROJECT** DASH BUS FACILITY EXPANSION  
**CITY OF ALEXANDRIA**  
301 King Street, Alexandria, Virginia 22314  
**DRAWING** CANOPY ROOF FRAMING PLAN

**SHEET**  
**S-103**



| REVISIONS | DATE | BY | DES |
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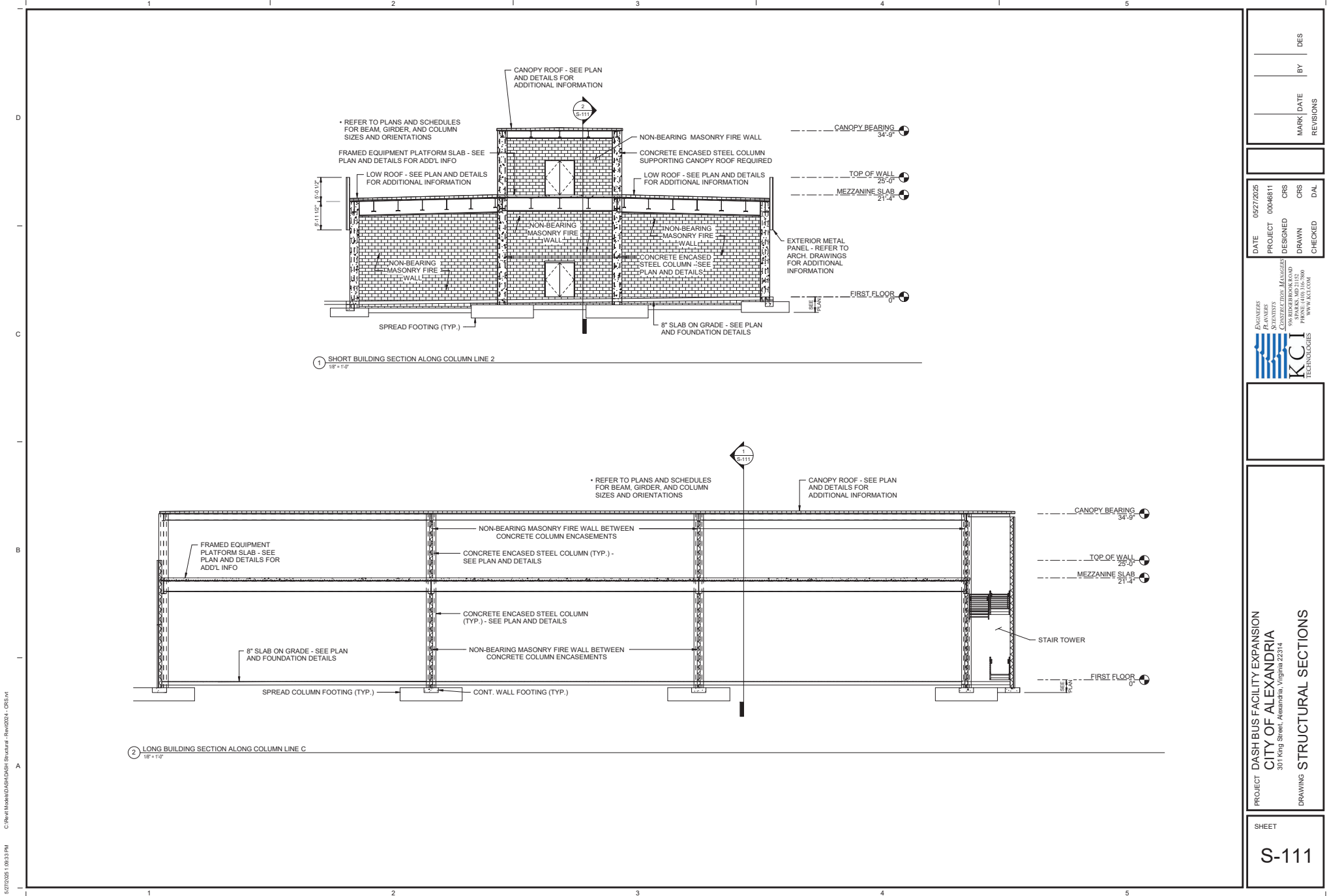
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**PROJECT** DASH BUS FACILITY EXPANSION  
**CITY OF ALEXANDRIA**  
 301 King Street, Alexandria, Virginia 22314  
**DRAWING** ROOF DECK ATTACHMENT PLAN

SHEET  
**S-104**



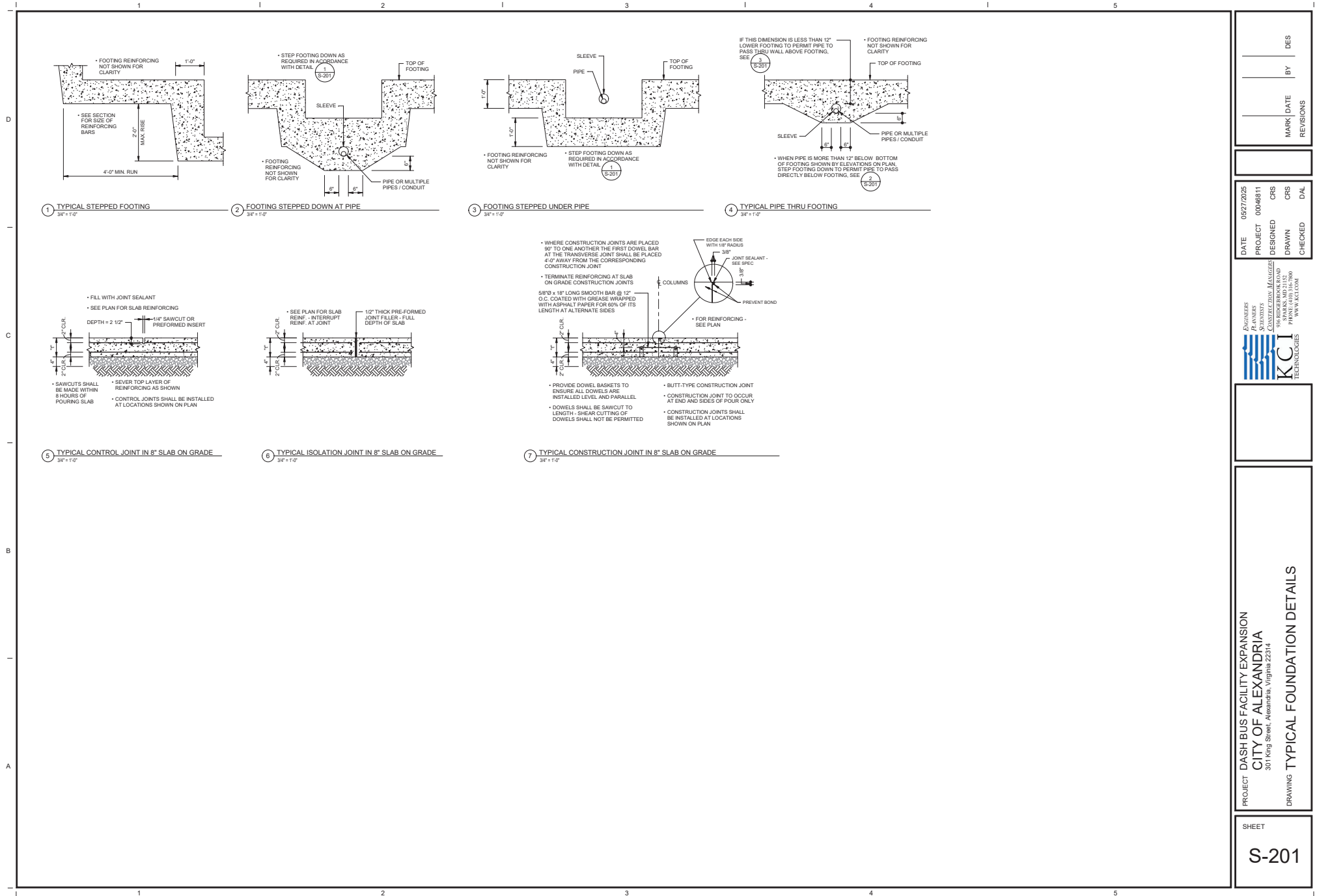
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| REVISIONS |

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| DATE     | 05/27/2025 |
| PROJECT  | 00048811   |
| DESIGNED | CRS        |
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| CHECKED  | DAL        |

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MANAGERS  
KCI  
TECHNOLOGIES  
301 King Street, Alexandria, Virginia 22314  
703.798.1000  
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PROJECT DASH BUS FACILITY EXPANSION  
CITY OF ALEXANDRIA  
301 King Street, Alexandria, Virginia 22314  
DRAWING STRUCTURAL SECTIONS

SHEET  
S-111



PROJECT DASH BUS FACILITY EXPANSION  
CITY OF ALEXANDRIA  
301 King Street, Alexandria, Virginia 22314  
DRAWING TYPICAL FOUNDATION DETAILS

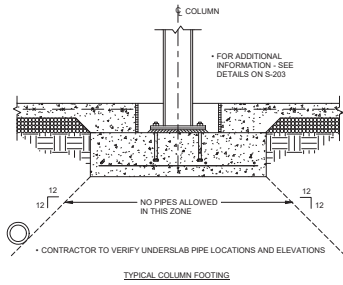
SHEET  
S-201

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1000 RIVERCHURCH ROAD  
SPARKS, MD 21152  
TEL: 410-386-7000  
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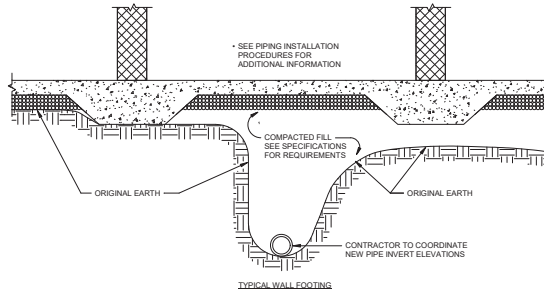
DATE 05/27/2025  
PROJECT 00046811  
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BY  
MARK DATE  
REVISIONS





TYPICAL COLUMN FOOTING

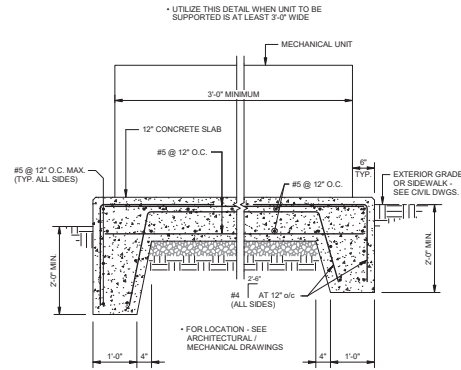


TYPICAL WALL FOOTING

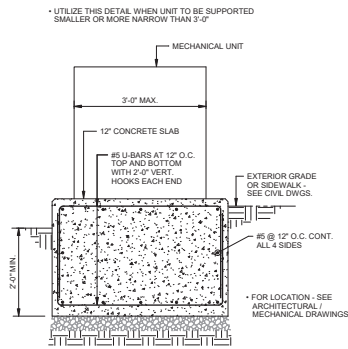
**PIPING INSTALLATION PROCEDURES**

1. PIPES AND JOINTS SHALL BE DESIGNED FOR EXTERNAL BEARING PRESSURE PROJECTED FROM FOOTINGS AND EARTH PRESSURE ABOVE. CONTRACTOR TO CONSULT WITH GEOTECHNICAL ENGINEER FOR REQUIRED DESIGN LOADS.
2. BEFORE STARTING CONCRETE WORK, EXCAVATE TRENCH AND INSTALL NEW PIPE. SEE CONTRACT SPECIFICATION FOR FURTHER REQUIREMENTS.
3. BACKFILL PIPE TRENCH WITH COMPACTED FILL. SEE GEOTECHNICAL REPORT AND CONTRACT SPECIFICATION FOR FURTHER REQUIREMENTS.
4. EXCAVATE AND POUR NEW FOOTINGS AND SLAB ON GRADE OVER COMPACTED FILL OR ON ORIGINAL EARTH.

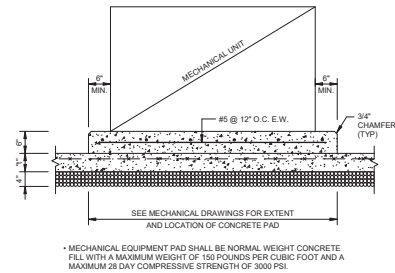
**1 PIPE NEAR FOOTINGS**  
3/4" = 1'-0"



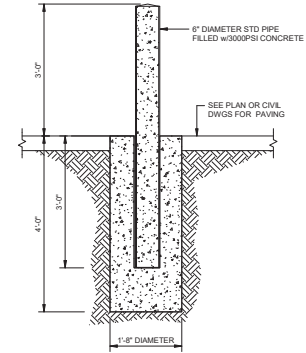
**2 TYPICAL EXTERIOR EQUIPMENT PAD FOR LARGE/WIDE UNITS**  
3/4" = 1'-0"



**3 TYPICAL EXTERIOR EQUIPMENT PAD FOR SMALL/NARROW UNITS**  
3/4" = 1'-0"



**4 TYPICAL EQUIPMENT PAD ON SLAB ON GRADE**  
3/4" = 1'-0"



**5 TYPICAL EXTERIOR PIPE BOLLARD AT EXTERIOR**  
3/4" = 1'-0"

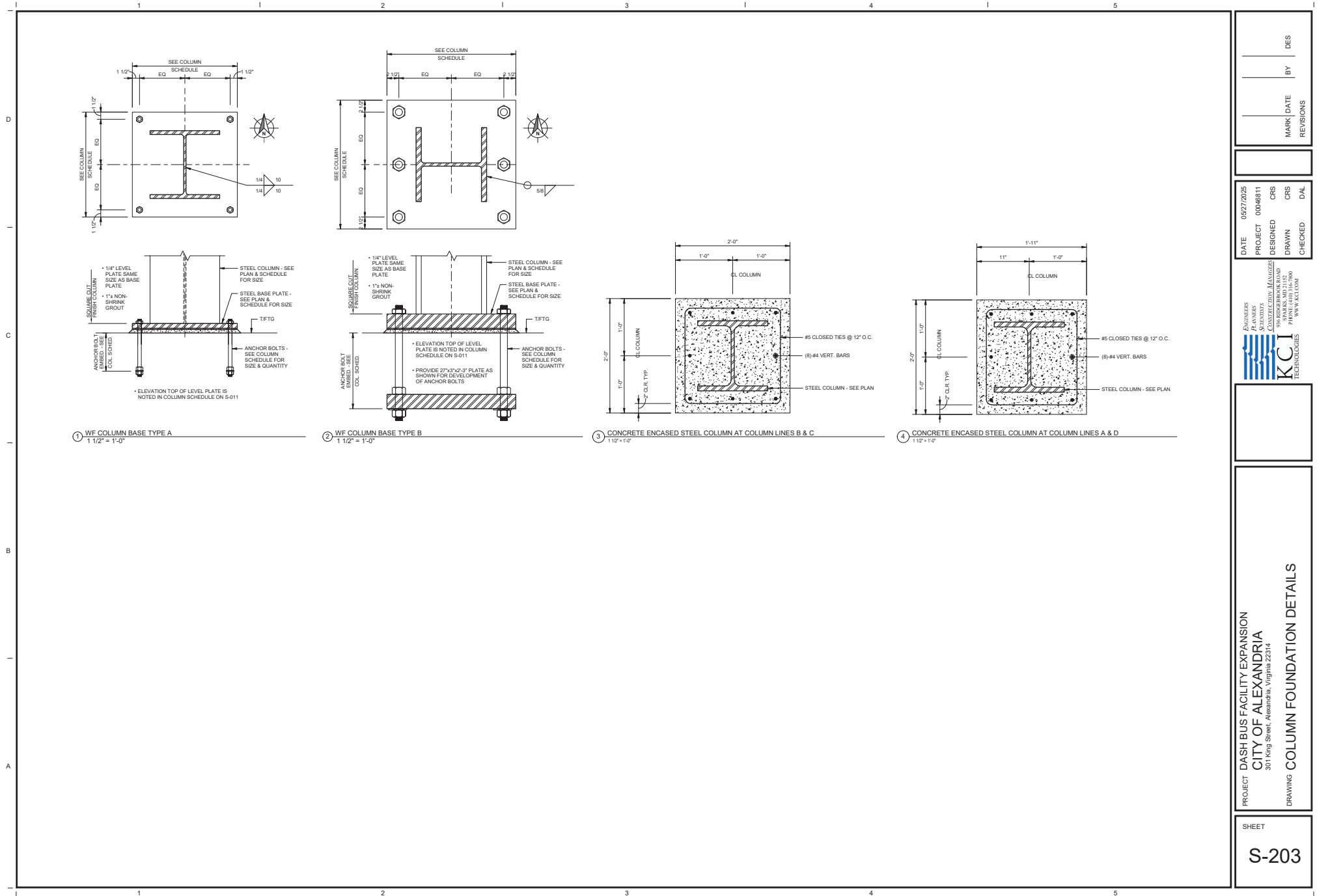
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| DATE       | PROJECT  | DESIGNED | CRS | DAL |
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| 05/27/2025 | 00048811 |          |     |     |

| ENGINEERS                                   | PLANNERS                                    | MANAGERS                                    |
|---------------------------------------------|---------------------------------------------|---------------------------------------------|
| KCI                                         | KCI                                         | KCI                                         |
| 301 King Street, Alexandria, Virginia 22314 | 301 King Street, Alexandria, Virginia 22314 | 301 King Street, Alexandria, Virginia 22314 |

|                                             |                             |
|---------------------------------------------|-----------------------------|
| PROJECT                                     | DASH BUS FACILITY EXPANSION |
| CITY OF ALEXANDRIA                          |                             |
| 301 King Street, Alexandria, Virginia 22314 |                             |
| DRAWING                                     | TYPICAL FOUNDATION DETAILS  |

|       |       |
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| SHEET | S-202 |
|-------|-------|



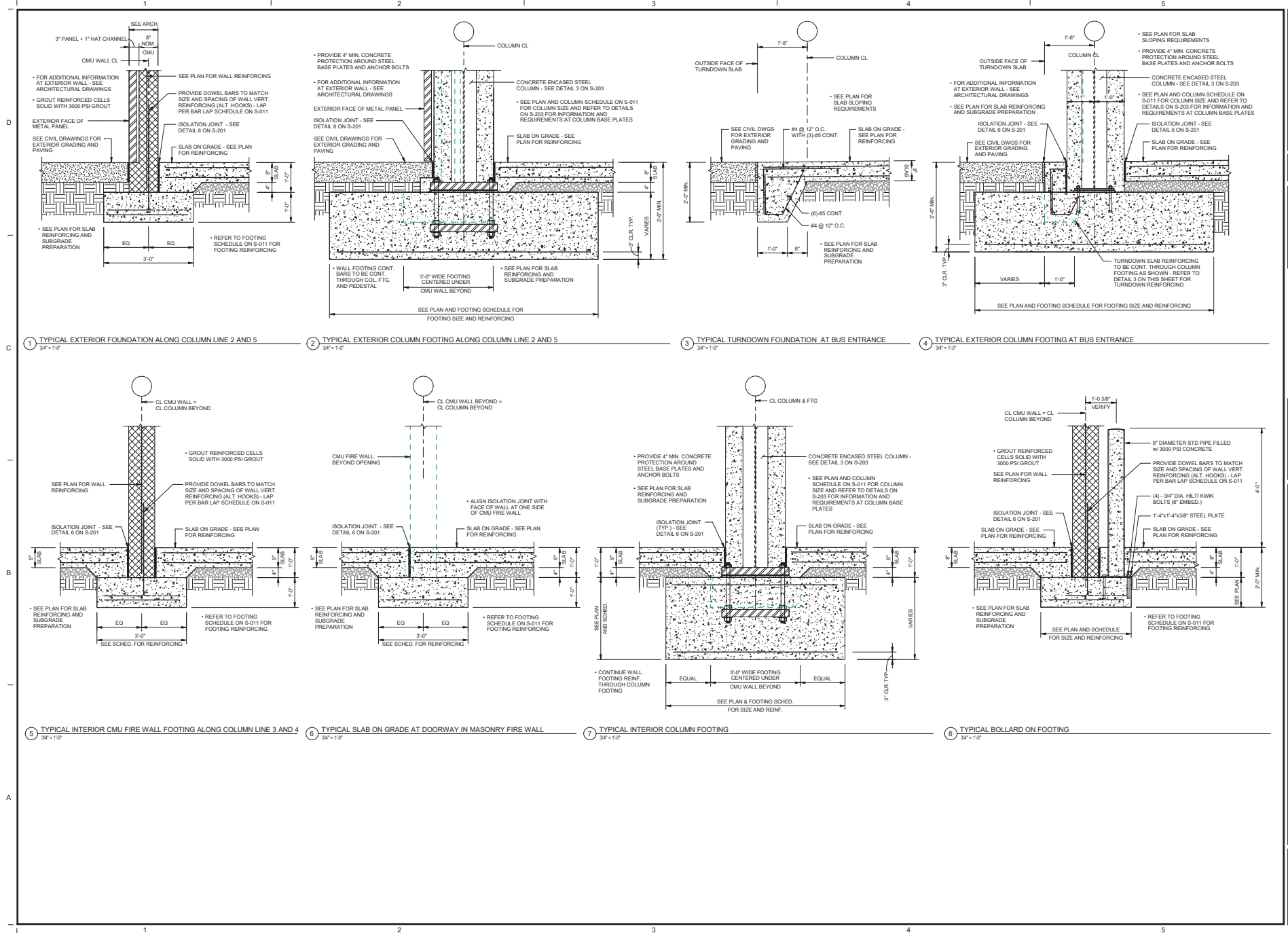
PROJECT DASH BUS FACILITY EXPANSION  
CITY OF ALEXANDRIA  
301 King Street, Alexandria, Virginia 22314  
DRAWING COLUMN FOUNDATION DETAILS

SHEET  
S-203

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DATE 05/27/2025  
PROJECT 00048811  
DESIGNED CRS  
DRAWN CRS  
CHECKED DAL

DES  
BY  
MARK DATE  
REVISIONS



PROJECT DASH BUS FACILITY EXPANSION  
CITY OF ALEXANDRIA  
301 King Street, Alexandria, Virginia 22314

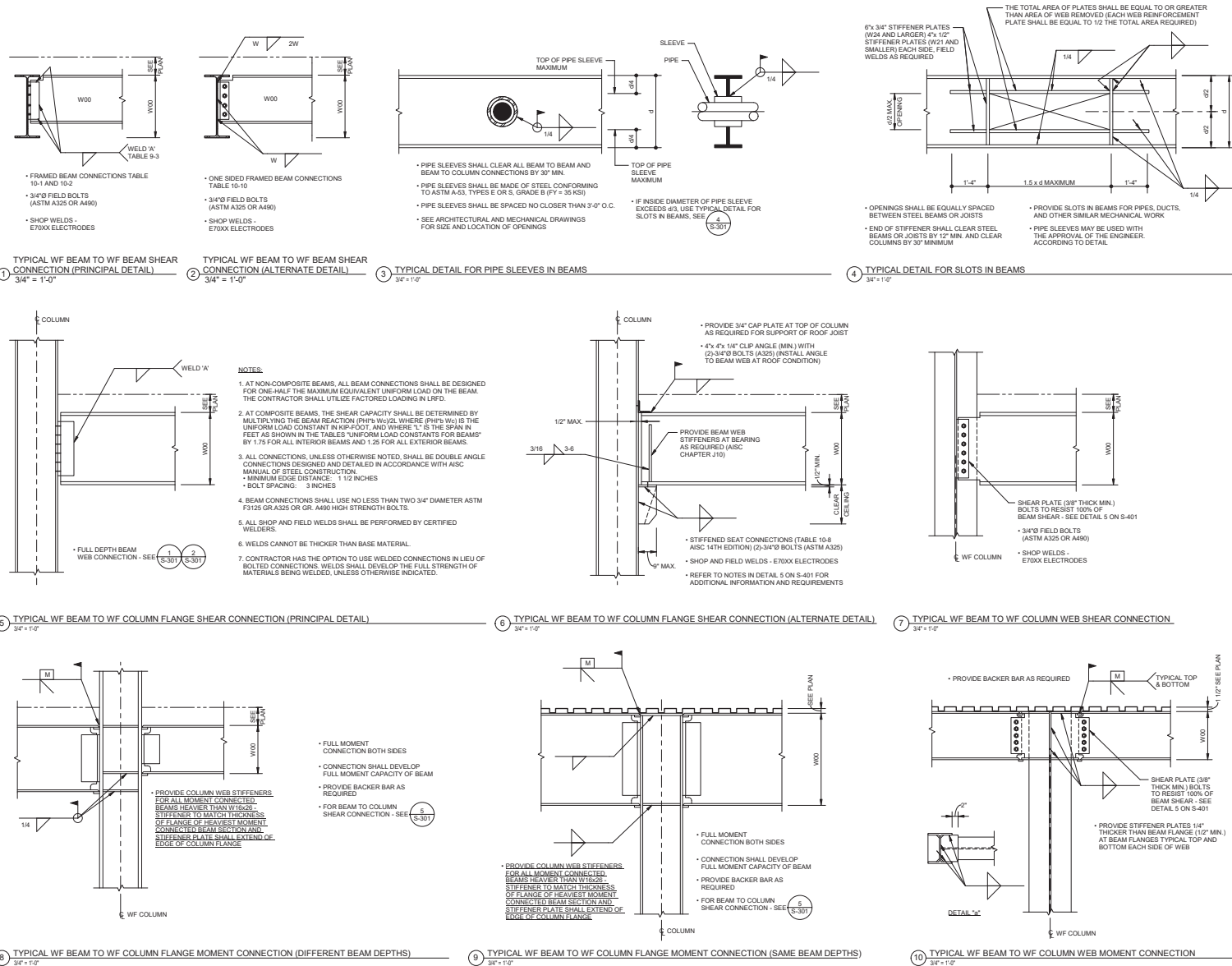
SHEET

S-204

ENGINEERS  
PLANNERS  
ARCHITECTS  
KCI  
TECHNOLOGIES

DATE 05/27/2025  
PROJECT 00048811  
DESIGNED CRS  
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DESIGN REVISIONS  
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DATE  
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| DESIGN                                                                                                                                    | BY         | MARK     | DATE | REVISIONS |
| PROJECT                                                                                                                                   | 05048811   | CRS      | DAL  |           |
| DATE                                                                                                                                      | 05/27/2025 | DESIGNED | CRS  |           |
|                                                                                                                                           |            | DRAWN    | DAL  |           |
| ENGINEERS<br>PLANNERS<br>SURVEYORS<br>KCI TECHNOLOGIES<br>301 KING STREET, ALEXANDRIA, VIRGINIA 22314<br>WWW.KCI.COM                      |            |          |      |           |
| PROJECT DASH BUS FACILITY EXPANSION<br>CITY OF ALEXANDRIA<br>301 King Street, Alexandria, Virginia 22314<br>DRAWING TYPICAL STEEL DETAILS |            |          |      |           |
| SHEET                                                                                                                                     |            |          |      |           |
| S-301                                                                                                                                     |            |          |      |           |

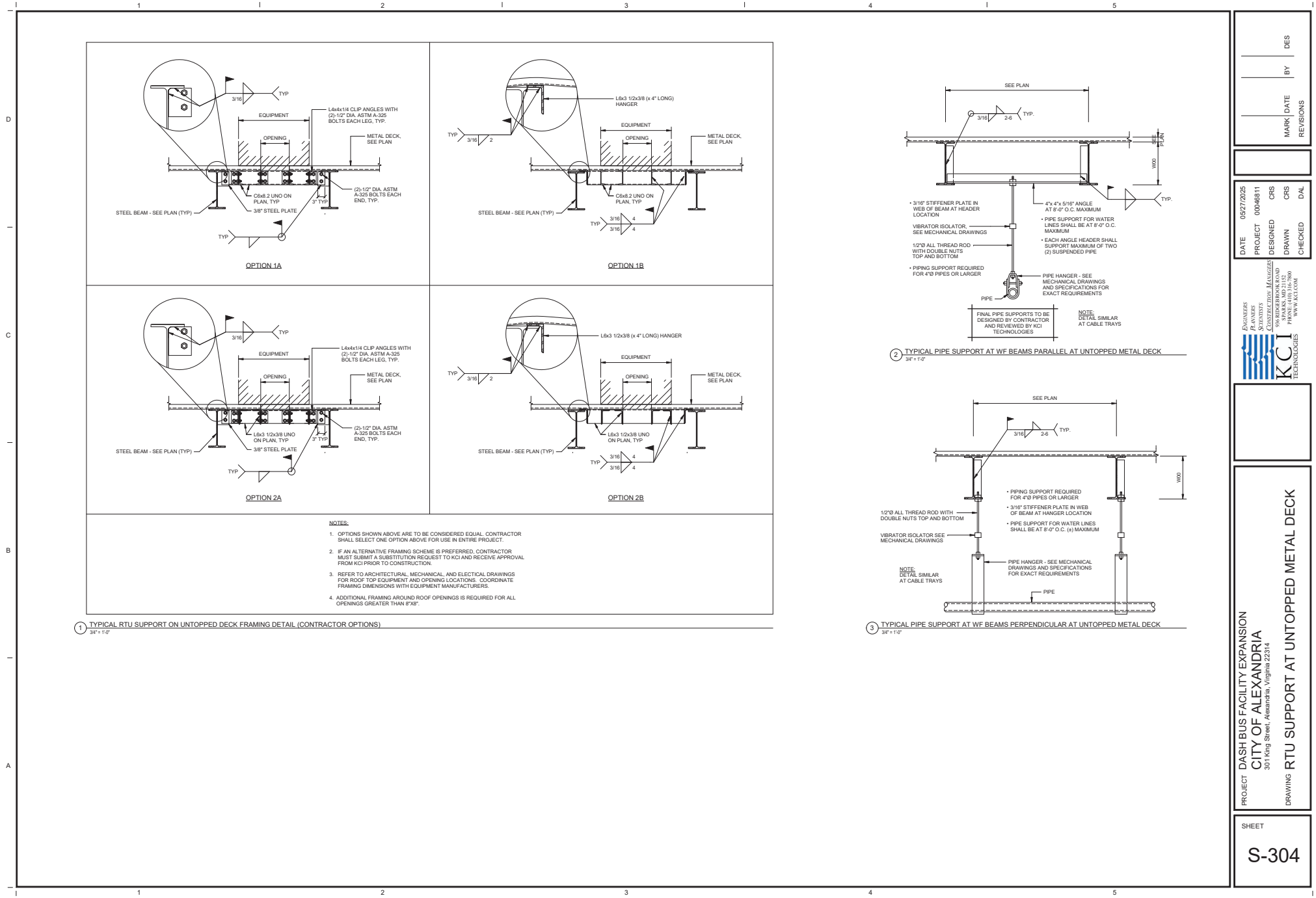




1. WELDED WIRE FABRIC SHALL BE ACCURATELY PLACE AND ADEQUATELY SUPPORT BEFORE THE CONCRETE IS PLACED, AND SHALL BE SECURED AGAINST DISPLACEMENT WITHIN PERMITTED TOLERANCES.
2. PROVIDE CONTINUOUS SUPPORTS FOR W.W.F. AT BEAMS AND GIRDERS ON COLUMN GRID LINES USING ONE OF THE METHODS SHOWN ABOVE.
3. SPANDRELS AND EDGE BEAMS TO HAVE TOP BARS AS SHOWN ON DETAIL S.

5 TYPICAL WELDED WIRE FABRIC SUPPORT DETAILS TOPPED DECK  
3/8" = 1'-0"





PROJECT DASH BUS FACILITY EXPANSION  
CITY OF ALEXANDRIA  
301 King Street, Alexandria, Virginia 22314

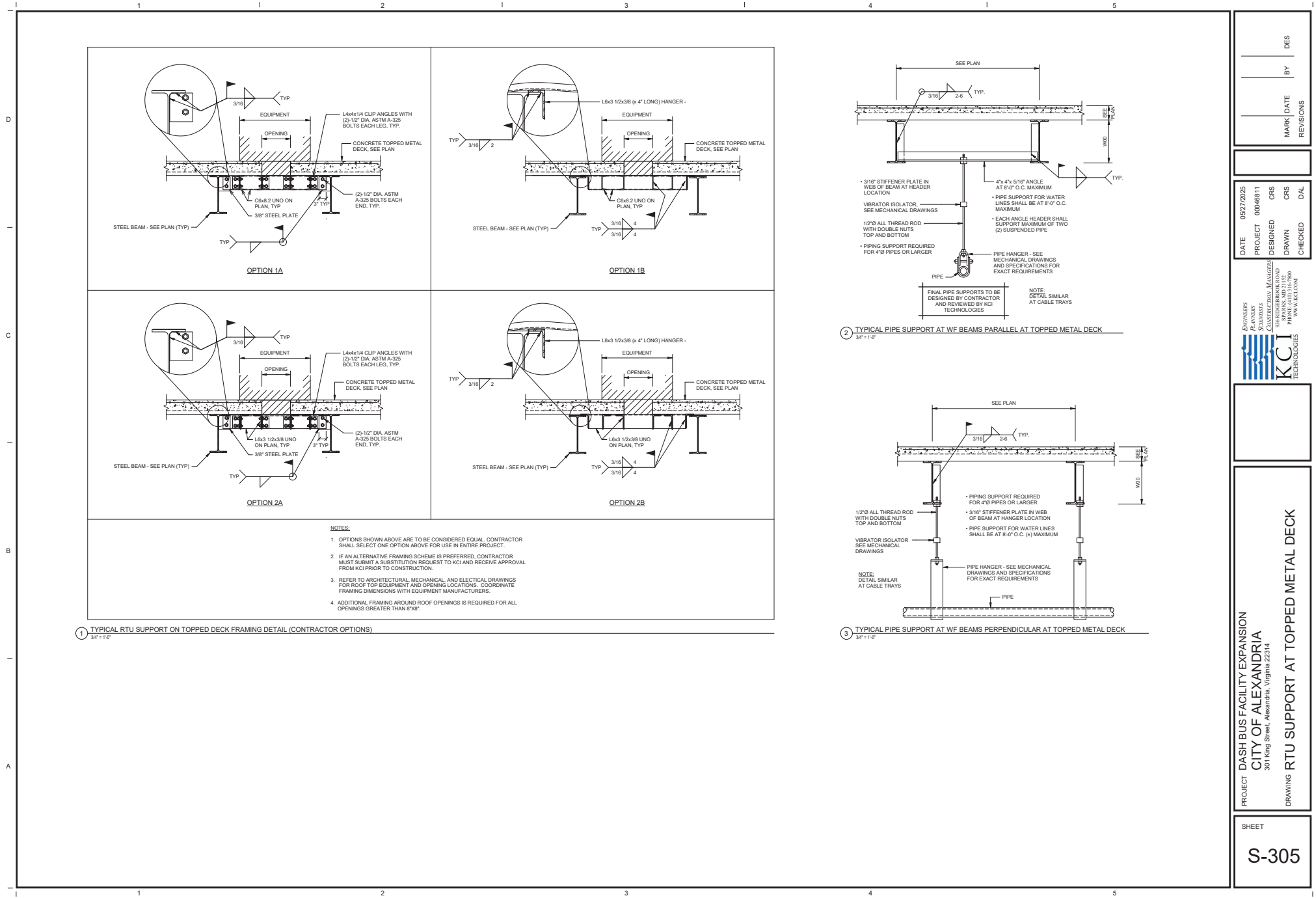
DRAWING RTU SUPPORT AT UNTOPPED METAL DECK

SHEET  
S-304

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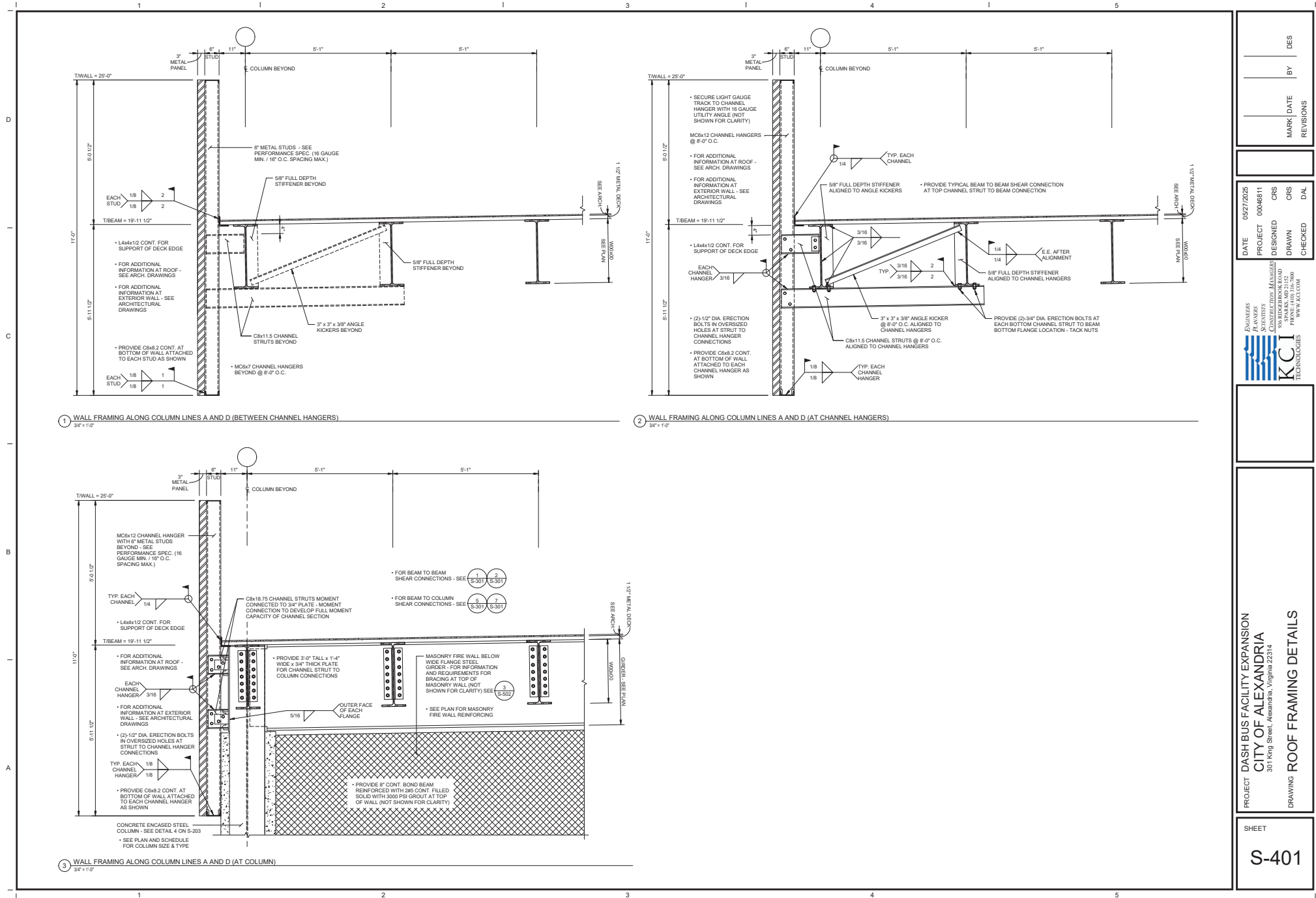
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|------------|----------|----------|---------|
| 05/27/2025 | 00048811 | CRS      | DAL     |

| ENGINEERS | PLANNERS | STRUCTURAL MANAGER | PROJECT MANAGER |
|-----------|----------|--------------------|-----------------|
| KCI       | KCI      | KCI                | KCI             |

| ENGINEERS | PLANNERS | STRUCTURAL MANAGER | PROJECT MANAGER |
|-----------|----------|--------------------|-----------------|
| KCI       | KCI      | KCI                | KCI             |

| PROJECT                                                                                          | DRAWING                          |
|--------------------------------------------------------------------------------------------------|----------------------------------|
| DASH BUS FACILITY EXPANSION<br>CITY OF ALEXANDRIA<br>301 King Street, Alexandria, Virginia 22314 | RTU SUPPORT AT TOPPED METAL DECK |

| SHEET |
|-------|
| S-305 |



PROJECT DASH BUS FACILITY EXPANSION  
CITY OF ALEXANDRIA  
301 King Street, Alexandria, Virginia 22314

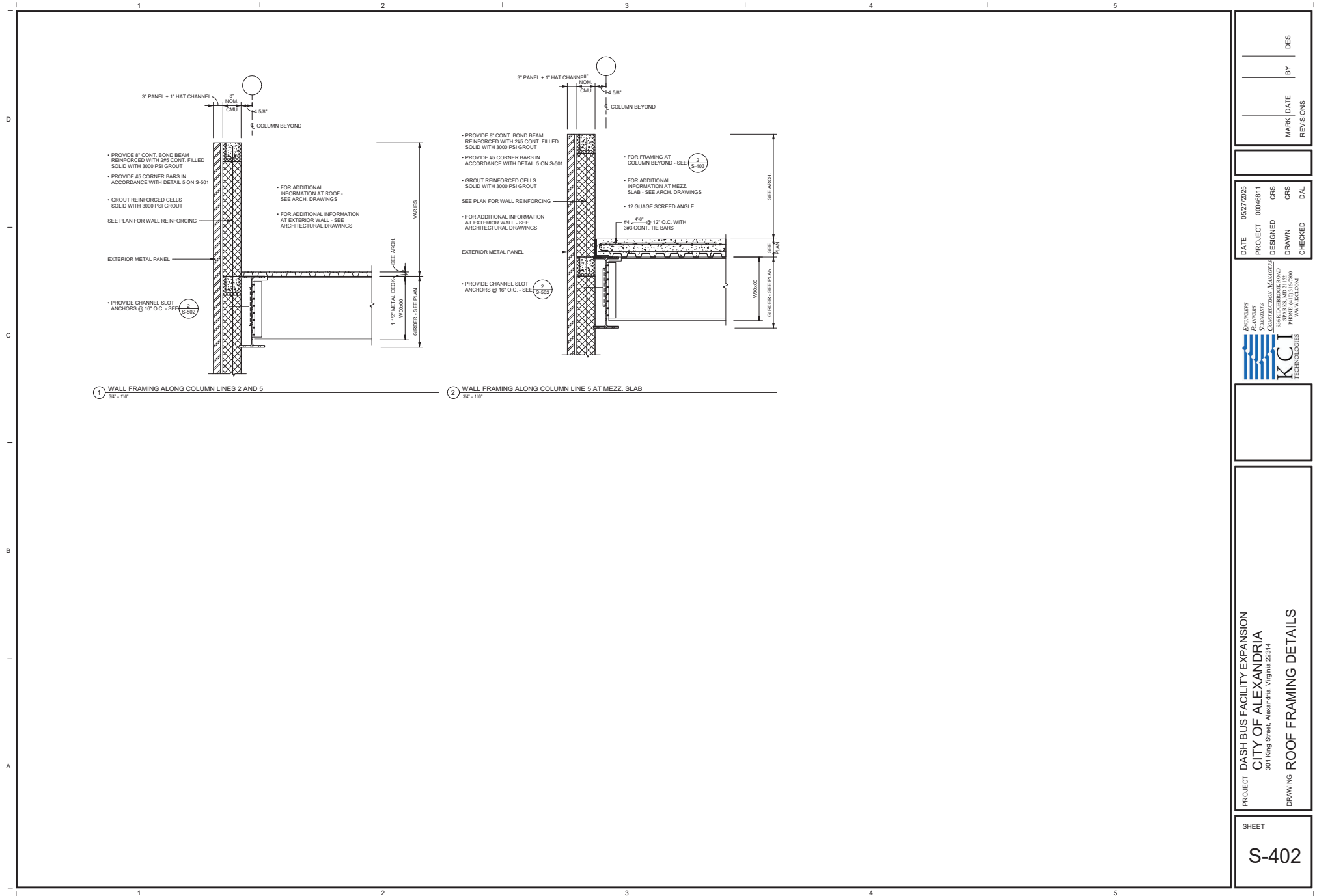
DRAWING ROOF FRAMING DETAILS

SHEET  
S-401

ENGINEERS  
PLAYERS  
SINCE 1937  
1000 INDEPENDENCE BLVD  
SPARKS, MD 21152  
WWW.KCI.COM

DATE 05/27/2025  
PROJECT 00048811  
DESIGNED CRS  
DRAWN CRS  
CHECKED DAL

DES  
BY  
MARK DATE  
REVISIONS



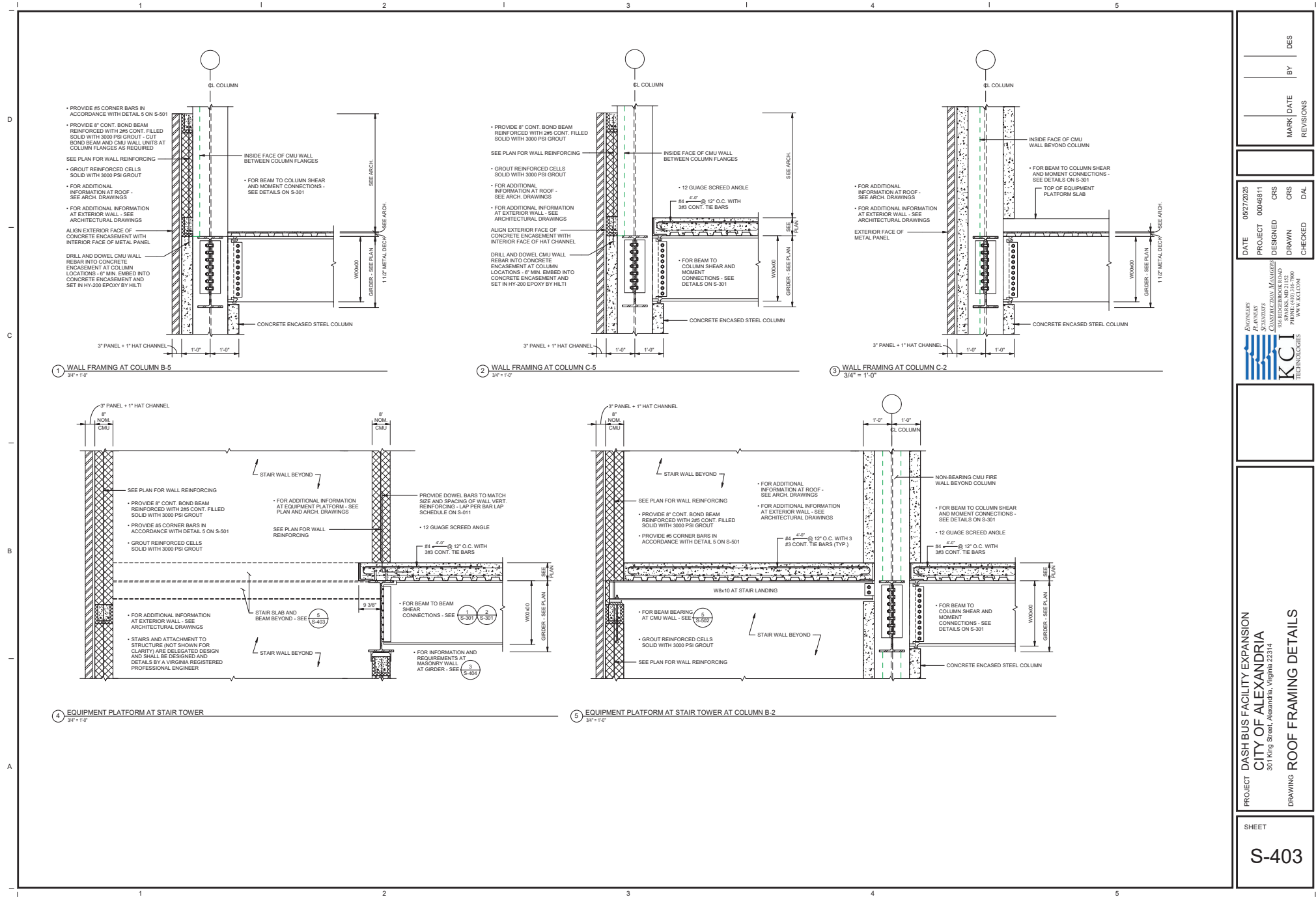
PROJECT DASH BUS FACILITY EXPANSION  
CITY OF ALEXANDRIA  
301 King Street, Alexandria, Virginia 22314  
DRAWING ROOF FRAMING DETAILS

SHEET  
S-402

ENGINEERS  
PLANNERS  
SUSAN STONE  
KCI  
TECHNOLOGIES  
906 RIVERBROOK ROAD  
SPARKS, MD 21152  
TEL: 410-386-7000  
WWW.KCI.COM

DATE 05/27/2025  
PROJECT 00046811  
DESIGNED CRS  
DRAWN DAL  
CHECKED DAL

MARK DATE BY DES  
REVISIONS



| DES | BY | MARK | DATE | REVISIONS |
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| DATE       | PROJECT  | DESIGNED | CRS     | DAL |
|------------|----------|----------|---------|-----|
| 05/27/2025 | 00048811 | DRAWN    | CHECKED |     |

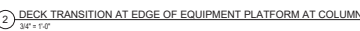


PROJECT DASH BUS FACILITY EXPANSION  
CITY OF ALEXANDRIA  
301 King Street, Alexandria, Virginia 22314

DRAWING ROOF FRAMING DETAILS

SHEET

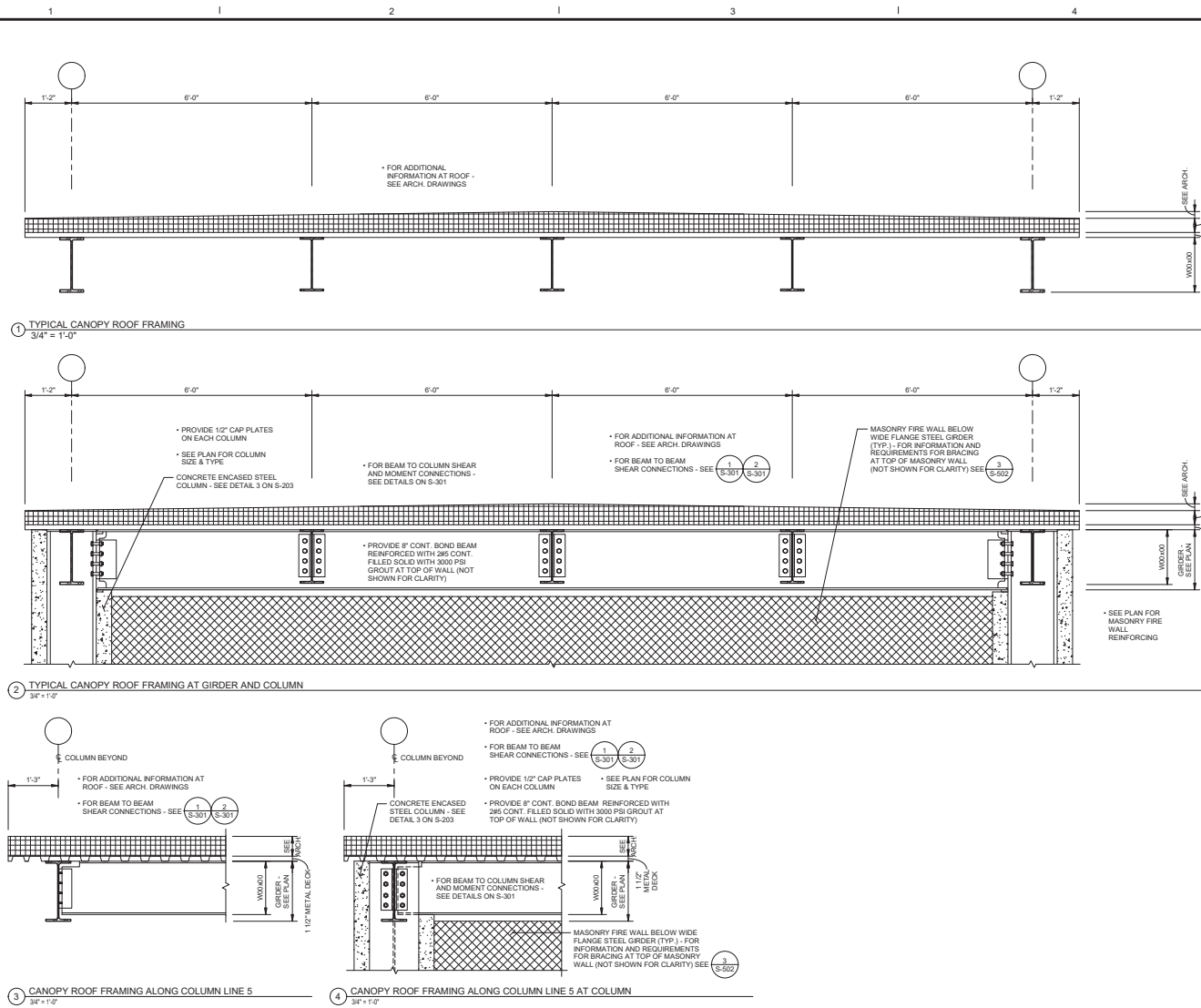
S-403



SHEET

S-404





PROJECT DASH BUS FACILITY EXPANSION  
CITY OF ALEXANDRIA  
301 King Street, Alexandria, Virginia 22314  
DRAWING ROOF FRAMING DETAILS

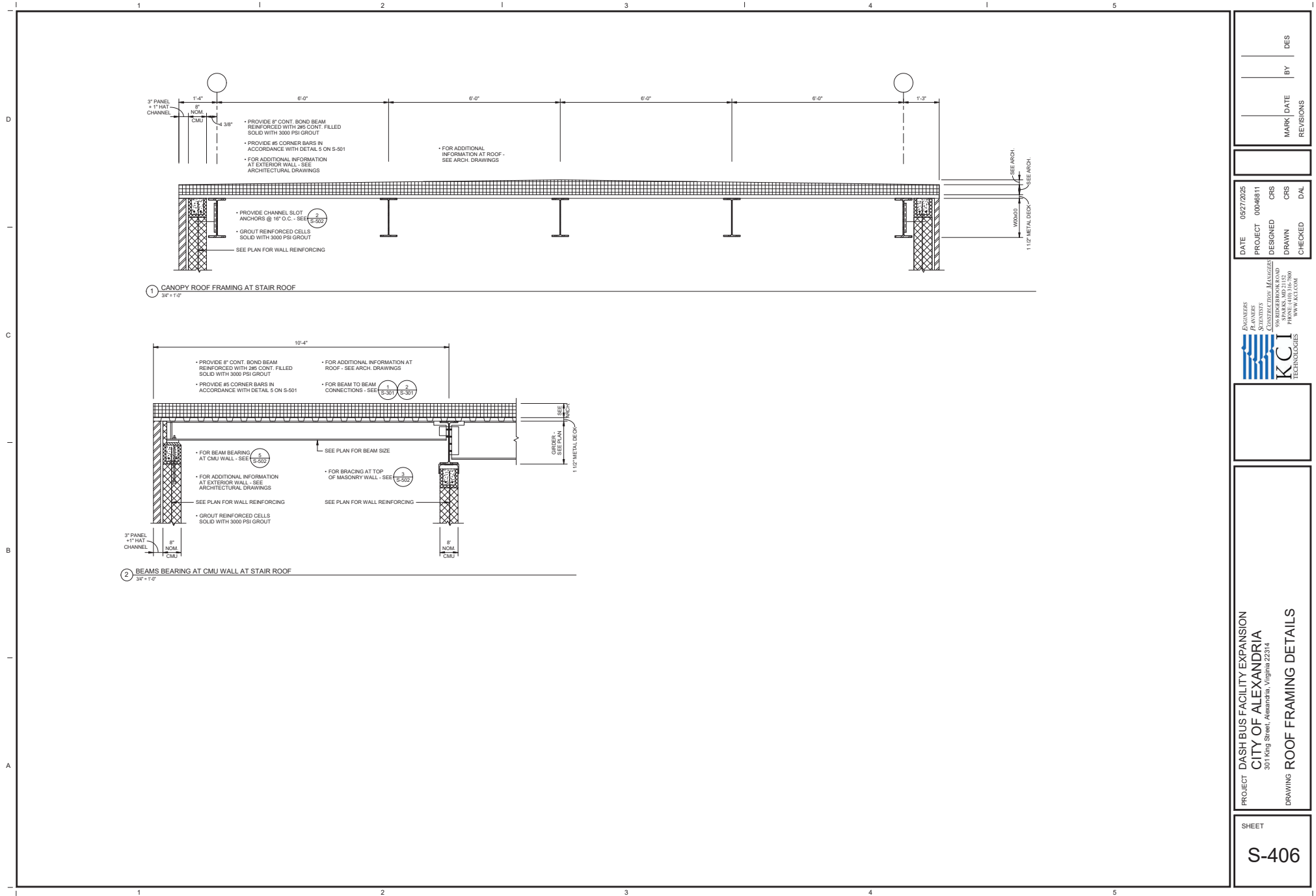
SHEET

S-405

ENGINEERS  
PLANNERS  
SURVEYORS  
KCI TECHNOLOGIES  
1000 RIVERCHURCH ROAD  
SPARKS, MD 21152  
WWW.KCI.COM

DATE 05/27/2025  
PROJECT 00046811  
DESIGNED CRS  
DRAWN CRS  
CHECKED DAL

DES  
BY  
MARK DATE  
REVISIONS



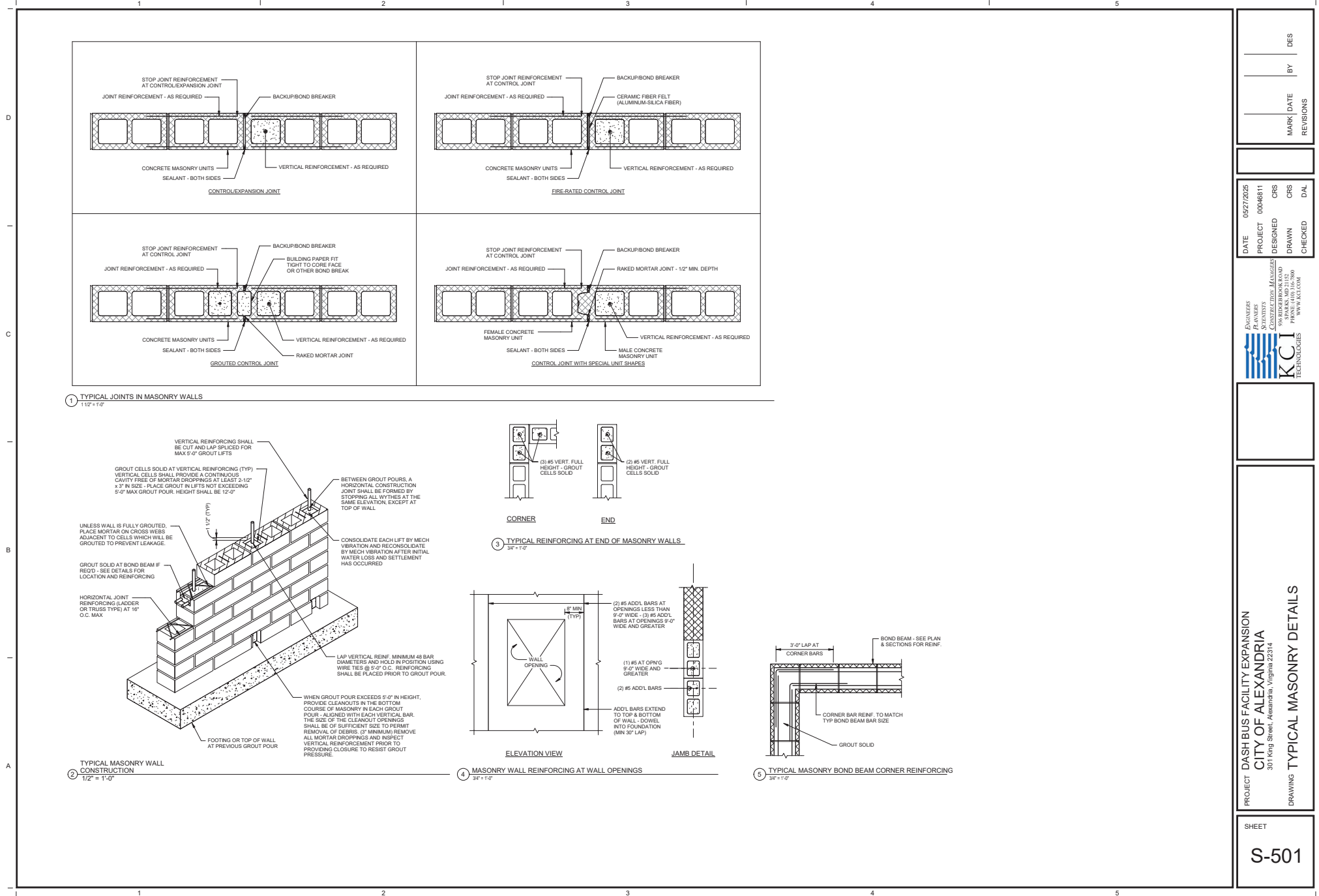
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| DATE       | PROJECT  | DESIGNED | CHECKED |
|------------|----------|----------|---------|
| 05/27/2025 | 00048811 | CRS      | DAL     |

| ENGINEERS                                   | PLANNERS                                    | STRUCTURAL MANAGER                          |
|---------------------------------------------|---------------------------------------------|---------------------------------------------|
| KCI                                         | KCI                                         | KCI                                         |
| 301 King Street, Alexandria, Virginia 22314 | 301 King Street, Alexandria, Virginia 22314 | 301 King Street, Alexandria, Virginia 22314 |

|                                             |                             |
|---------------------------------------------|-----------------------------|
| PROJECT                                     | DASH BUS FACILITY EXPANSION |
| CITY OF ALEXANDRIA                          |                             |
| 301 King Street, Alexandria, Virginia 22314 |                             |
| DRAWING                                     | ROOF FRAMING DETAILS        |

|       |       |
|-------|-------|
| SHEET | S-406 |
|-------|-------|



| REVISIONS | DATE | BY | DES |
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| DATE       | PROJECT  | DESIGNED | CRS | DRAWN | CRS | CHECKED | DAL |
|------------|----------|----------|-----|-------|-----|---------|-----|
| 05/27/2025 | 00048811 |          |     |       |     |         |     |

ENGINEERS  
PLANNERS  
SURVEYORS  
301 King Street, Alexandria, Virginia 22314  
WWW.KCI.COM

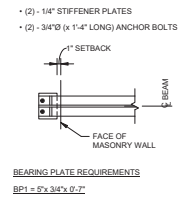
**KCI**  
TECHNOLOGIES

PROJECT DASH BUS FACILITY EXPANSION  
CITY OF ALEXANDRIA  
301 King Street, Alexandria, Virginia 22314

DRAWING TYPICAL MASONRY DETAILS

SHEET

S-501



S-502

PROJECT DASH BUS FACILITY EXPANSION  
CITY OF ALEXANDRIA  
301 King Street, Alexandria, Virginia 22314

DRAWING TYPICAL MASONRY DETAILS



**KCI**  
TECHNOLOGIES

ENGINEERS  
PLANNERS  
SCIENTISTS

**CONSTRUCTION MANAGERS**

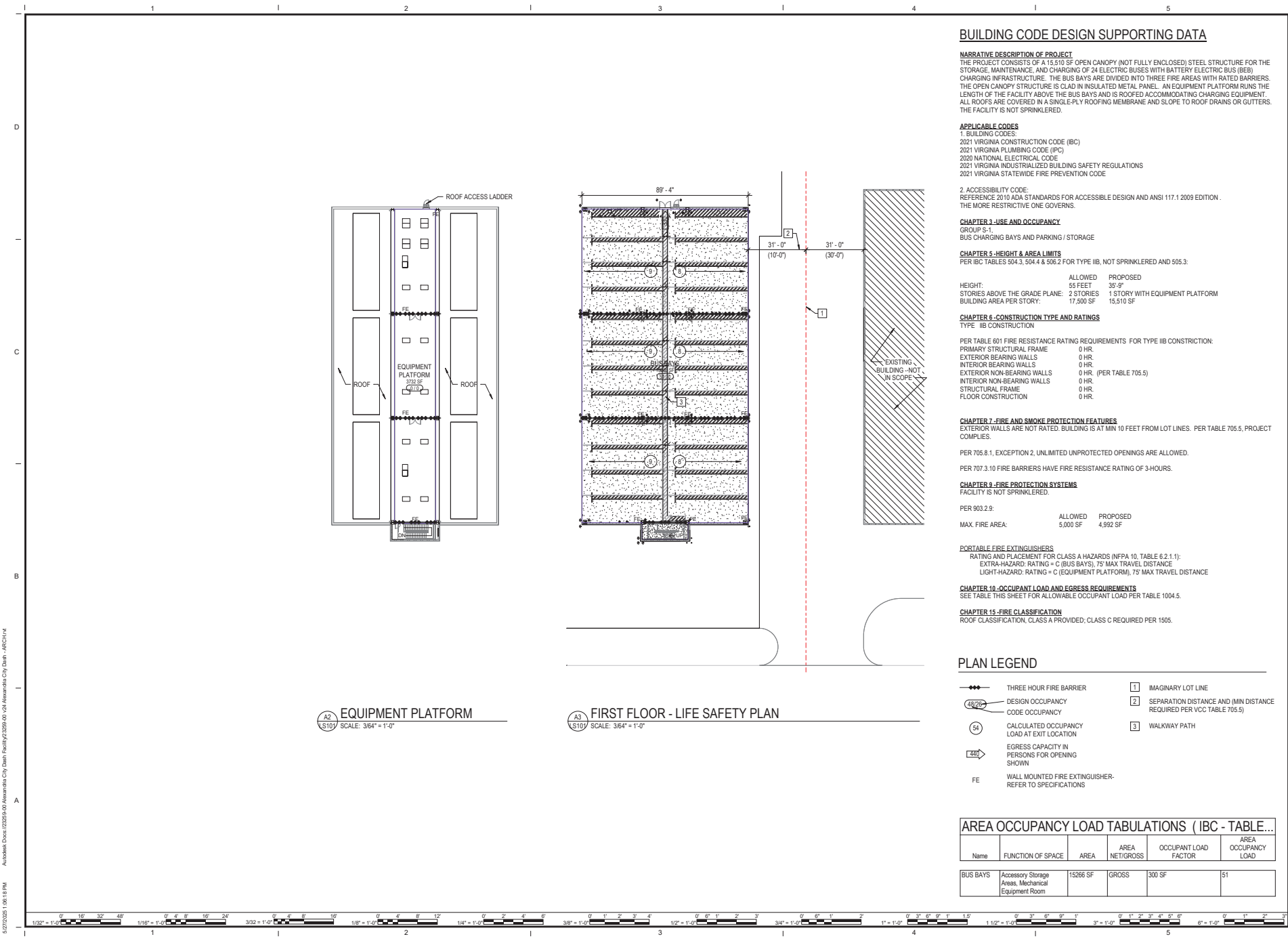
916 RIDGEBROOK ROAD  
SPARKS, MD 21152  
PHONE: (410) 316-7800  
WWW.KCI.COM

| MARK | DATE | BY | DES |
|------|------|----|-----|
|      |      |    |     |

REVISIONS



5/27/2025 1:00:18 PM Autodesk Docs (2325) 5-00 Alexandria City Dash Facility V2 3259-00 -04 Alexandria City Dash - ARCH.rvt



DES

BY

DATE

REVISIONS

05/27/2025

PROJECT

DESIGNED

DRAWN

CHECKED

23259-00

KOL

OAD

KOL

RRMM

ARCHITECTS, PC

200 South Quincy Street, Suite 710

Arlington, Virginia 22206

(703) 998-0101

05.27.2025

CERTIFIED BY

LEONARD

LEONARD

LEONARD

PROJECT

DASH BUS FACILITY EXPANSION

City of Alexandria, VA

3000 Bureau Center Drive

Alexandria, VA 22314

DRAWING

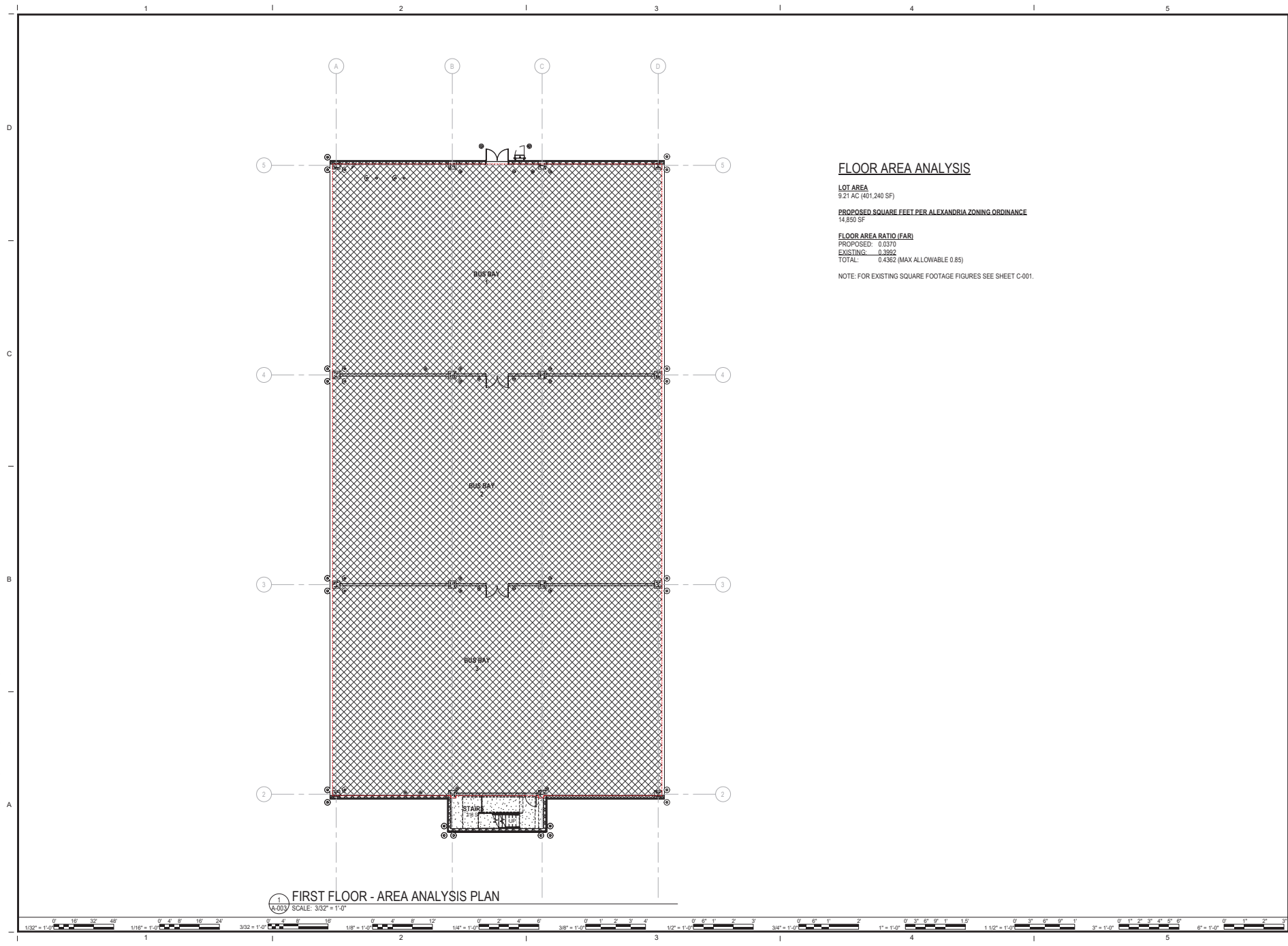
LIFE SAFETY PLANS & SUPPORTING DATA

SHEET

LS101



5/22/2025 2:50:25 PM Autodesk Docs (23259.54) Alexandria City Draft Facility V2 3259.00 -04 Alexandria City Draft - ARCH1.rvt



### FLOOR AREA ANALYSIS

**LOT AREA**  
9.21 AC (401,240 SF)

**PROPOSED SQUARE FEET PER ALEXANDRIA ZONING ORDINANCE**  
14,850 SF

**FLOOR AREA RATIO (FAR)**  
PROPOSED: 0.0370  
EXISTING: 0.3992  
TOTAL: 0.4362 (MAX ALLOWABLE 0.85)

NOTE: FOR EXISTING SQUARE FOOTAGE FIGURES SEE SHEET C-001.

|         |          |            |           |
|---------|----------|------------|-----------|
| DATE    |          | 05/27/2025 |           |
| PROJECT | DESIGNED | KOL        | KOL       |
| DRAWN   | CAD      |            |           |
| CHECKED |          |            |           |
| MARK    |          | DATE       | REVISIONS |
|         |          | BY         | DES       |

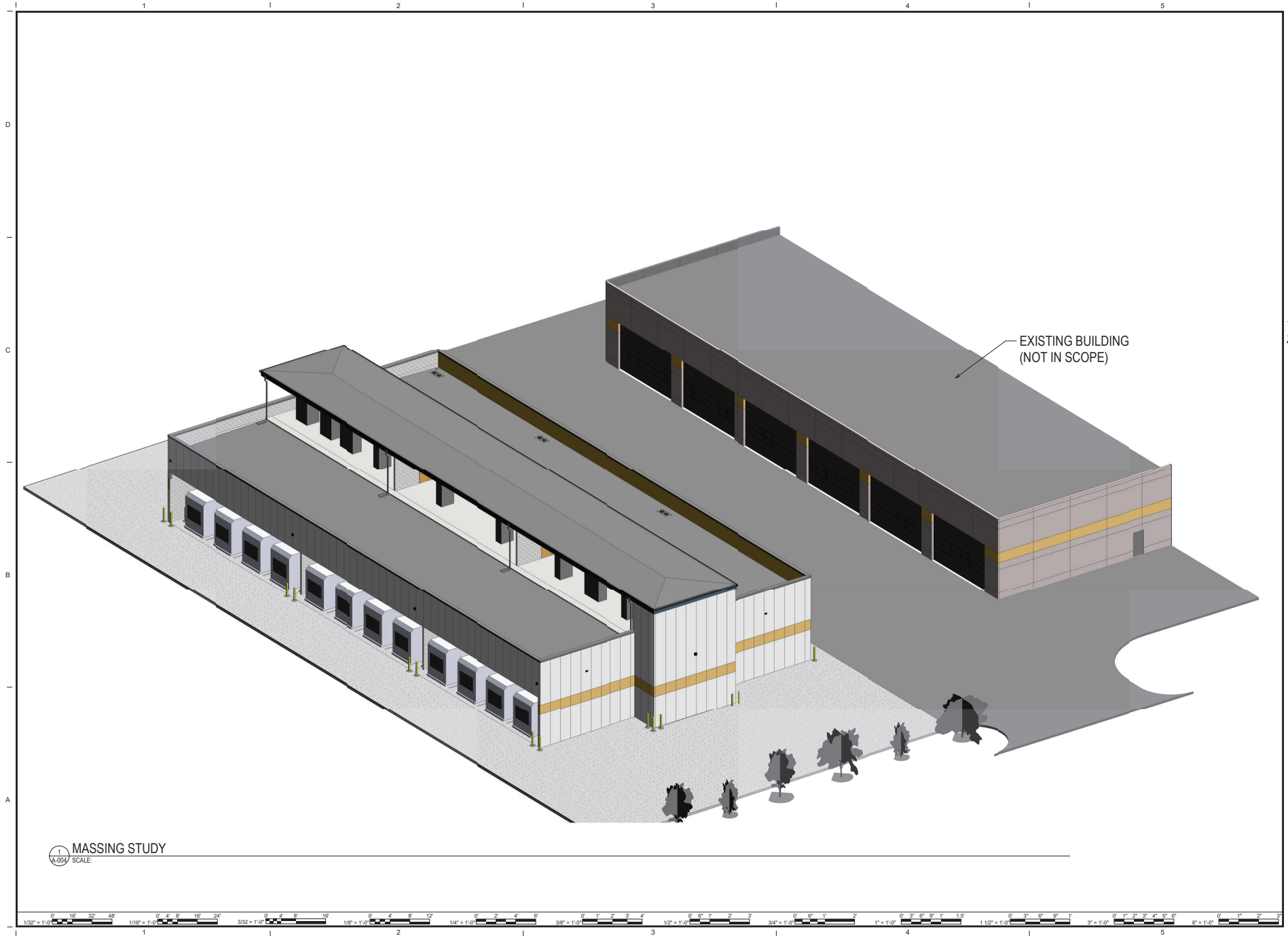
**RRMM<sup>®</sup> ARCHITECTS, PC**  
200 South Quay Street, Suite 710  
Arlington, Virginia 22206  
(703)998-0101

PROJECT DASH BUS FACILITY EXPANSION  
City of Alexandria, VA  
3000 Business Center Drive  
Alexandria, VA 22314

DRAWING FLOOR AREA ANALYSIS

SHEET

**A-003**



**1 MASSING STUDY**  
SCALE:



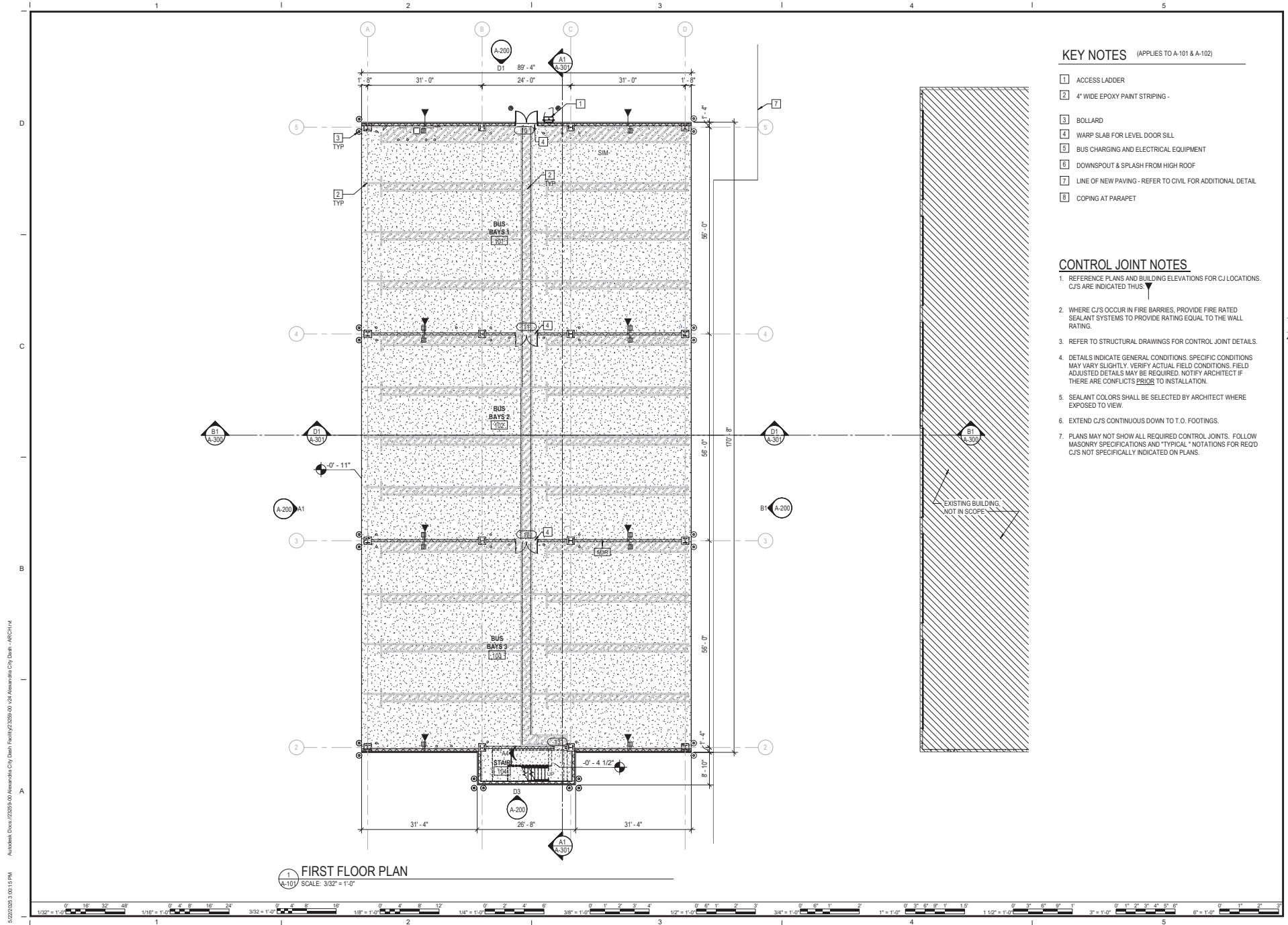
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|            |          |          |       |         | BY   |      |           |
|            |          |          |       |         | DES  |      |           |

|            |          |          |       |         |
|------------|----------|----------|-------|---------|
| DATE       | PROJECT  | DESIGNED | DRAWN | CHECKED |
| 05/27/2025 | 23259-00 | KDL      | KDL   | KDL     |



PROJECT DASH BUS FACILITY EXPANSION  
City of Alexandria, VA  
3000 Business Center Drive  
Alexandria, VA 22314  
DRAWING MASSING STUDY

SHEET  
**A-004**

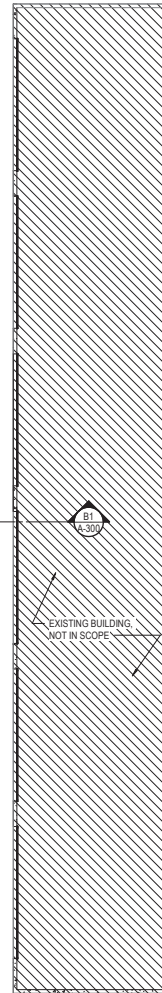


# KEY NOTES (APPLIES TO A-101 & A-102)

- 1 ACCESS LADDER
- 2 4" WIDE EPOXY PAINT STRIPING
- 3 BOLLARD
- 4 WARP SLAB FOR LEVEL DOOR SILL
- 5 BUS CHARGING AND ELECTRICAL EQUIPMENT
- 6 DOWNSPOUT & SPLASH FROM HIGH ROOF
- 7 LINE OF NEW PAVING - REFER TO CIVIL FOR ADDITIONAL DETAIL
- 8 COPING AT PARAPET

## CONTROL JOINT NOTES

1. REFERENCE PLANS AND BUILDING ELEVATIONS FOR CJ LOCATIONS. CJS ARE INDICATED THUS:
2. WHERE CJS OCCUR IN FIRE BARRIERS, PROVIDE FIRE RATED SEALANT SYSTEMS TO PROVIDE RATING EQUAL TO THE WALL RATING.
3. REFER TO STRUCTURAL DRAWINGS FOR CONTROL JOINT DETAILS.
4. DETAILS INDICATE GENERAL CONDITIONS. SPECIFIC CONDITIONS MAY VARY SLIGHTLY. VERIFY ACTUAL FIELD CONDITIONS. FIELD ADJUSTED DETAILS MAY BE REQUIRED. NOTIFY ARCHITECT IF THERE ARE CONFLICTS PRIOR TO INSTALLATION.
5. SEALANT COLORS SHALL BE SELECTED BY ARCHITECT WHERE EXPOSED TO VIEW.
6. EXTEND CJS CONTINUOUS DOWN TO T.O. FOOTINGS.
7. PLANS MAY NOT SHOW ALL REQUIRED CONTROL JOINTS. FOLLOW MASONRY SPECIFICATIONS AND "TYPICAL" NOTATIONS FOR REQ'D CJS NOT SPECIFICALLY INDICATED ON PLANS.



| DES       |
|-----------|
| BY        |
| DATE      |
| REVISIONS |

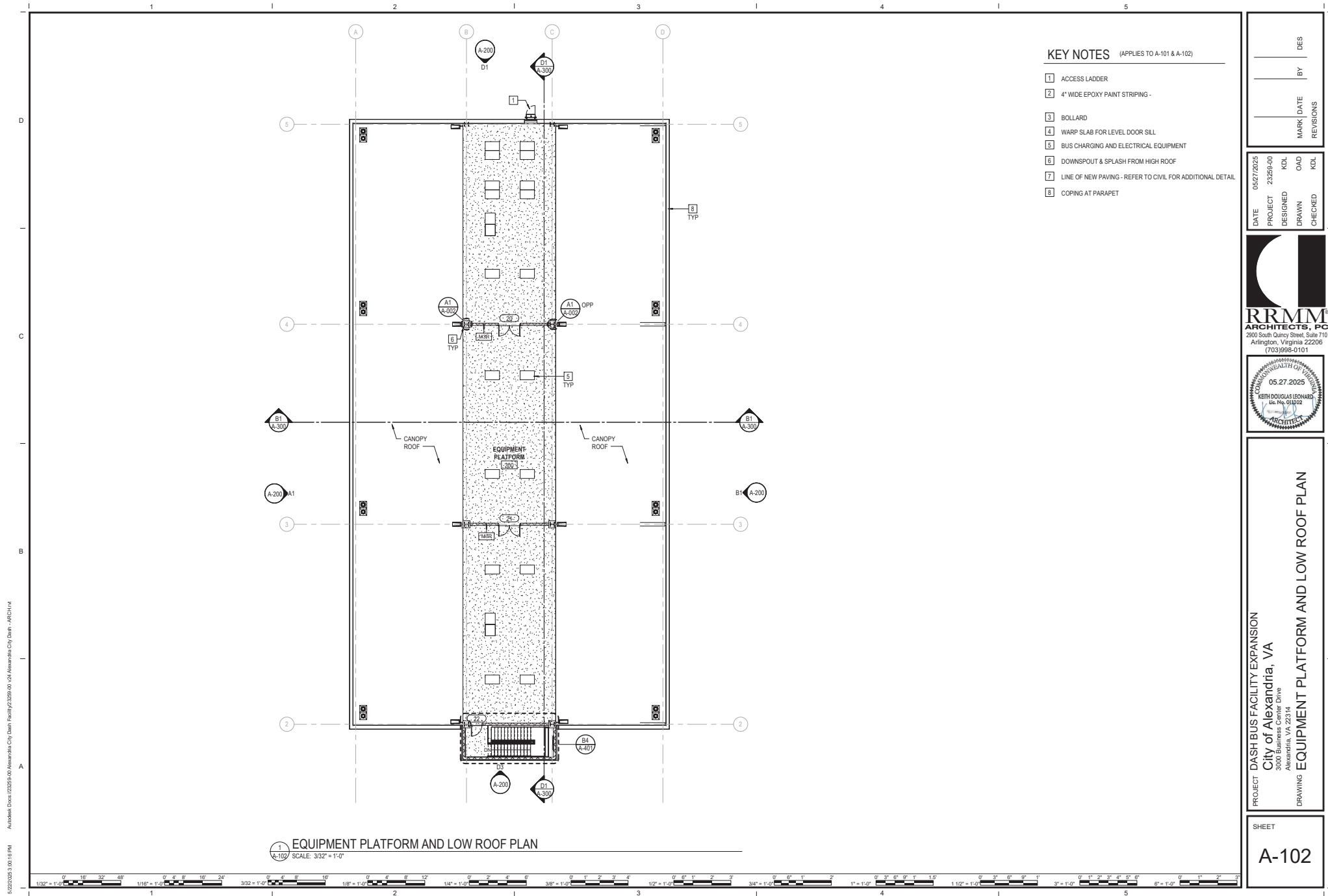
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|------------|----------|----------|-------|-----|-----|
| 05/27/2025 | 23259-00 | KOL      | KOL   |     |     |



PROJECT DASH BUS FACILITY EXPANSION  
City of Alexandria, VA  
3000 Business Center Drive  
Alexandria, VA 22314  
DRAWING FIRST FLOOR PLAN

SHEET  
A-101

5/22/2025 3:00:18 PM Autodesk Docs (2325) 5-00 Alexandria City Draft Facility V2 3259-00 04 Alexandria City Draft - ARCH.rvt



PROJECT DASH BUS FACILITY EXPANSION  
City of Alexandria, VA  
3000 Business Center Drive  
Alexandria, VA 22314  
DRAWING EQUIPMENT PLATFORM AND LOW ROOF PLAN

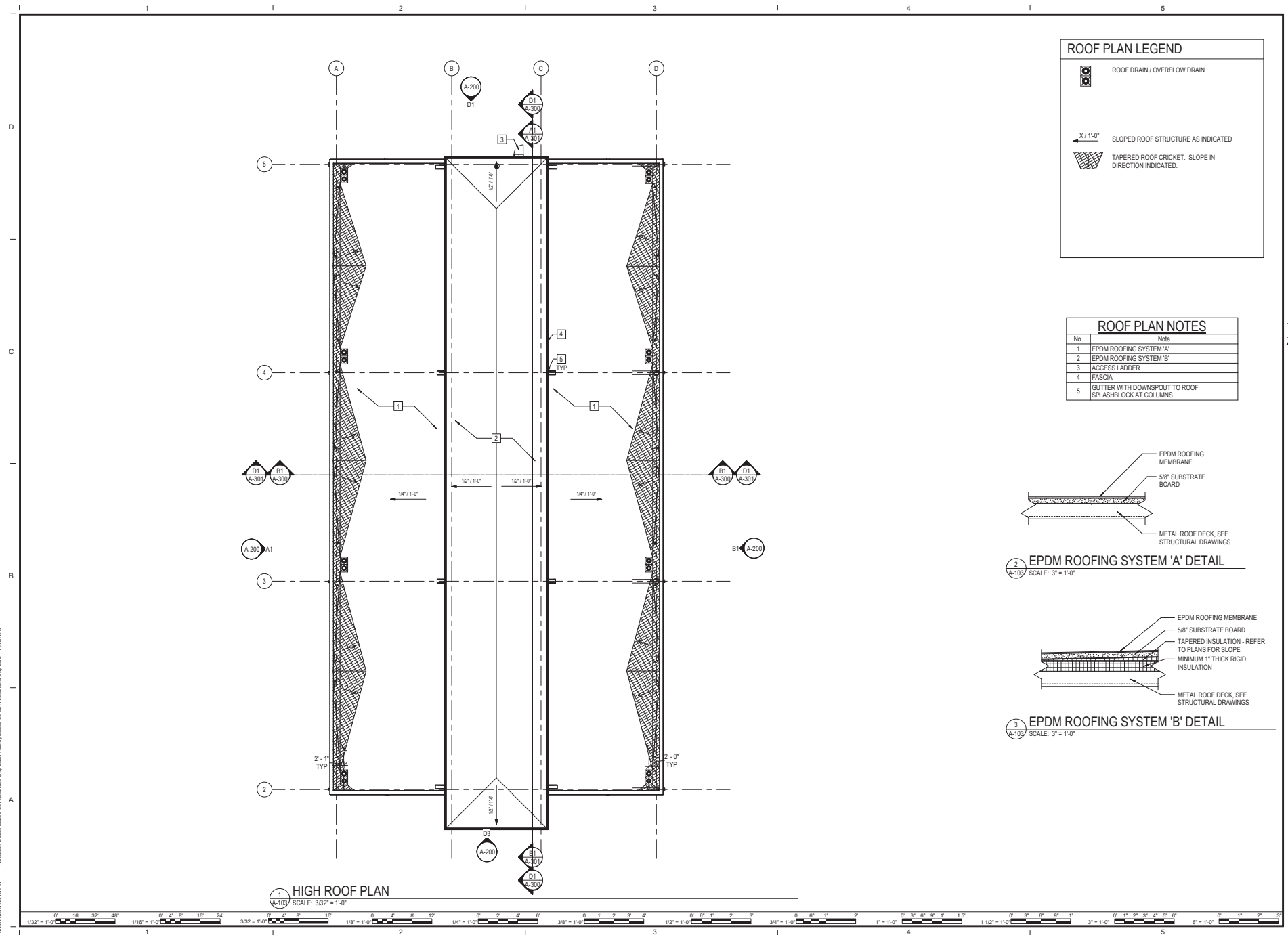
SHEET  
A-102



| DATE       | PROJECT  | DESIGNED | DRAWN | CHECKED |
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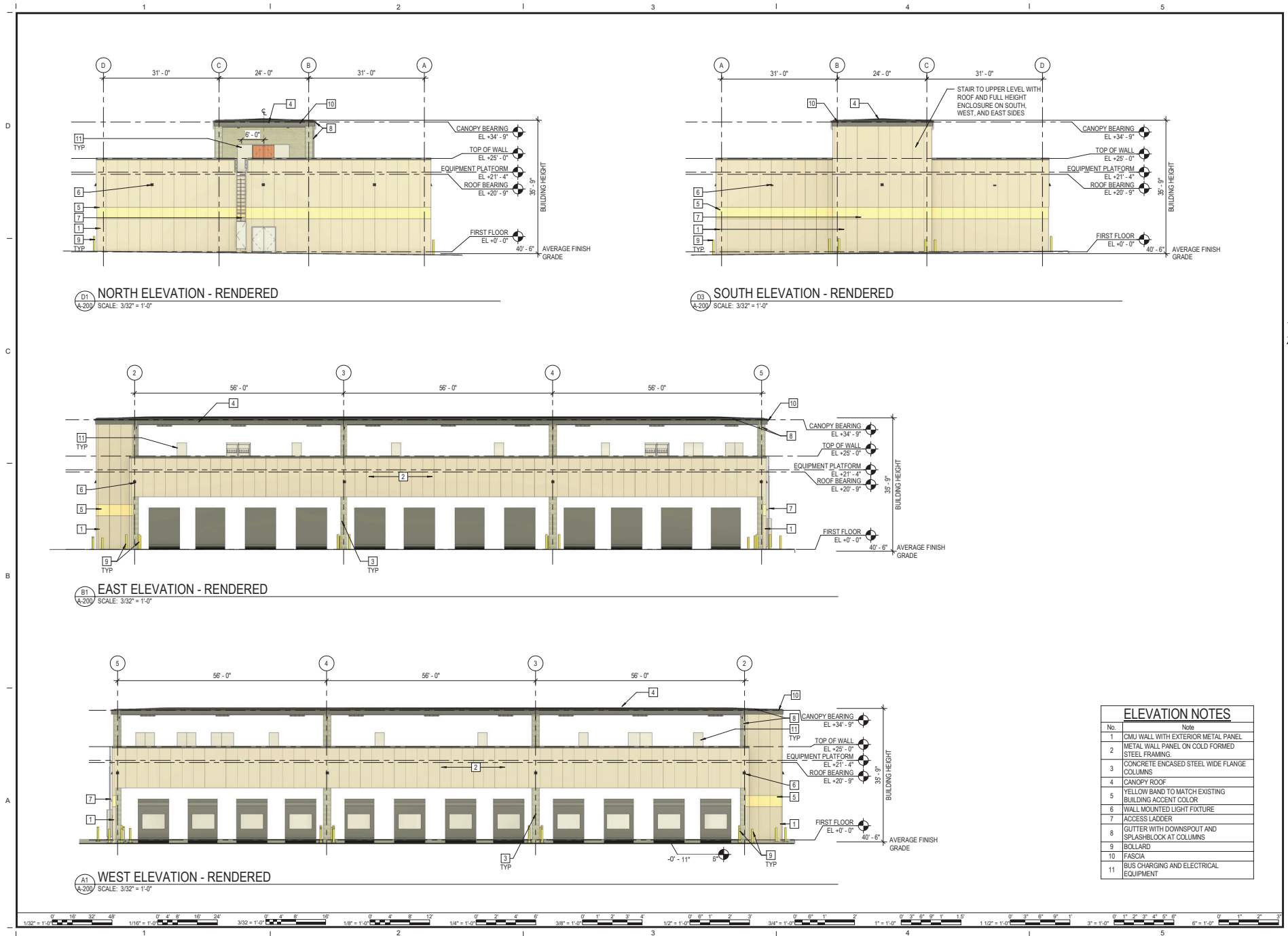
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|-----|----|------|------|-----------|
|     |    |      |      |           |

| DATE       | PROJECT  | DESIGNED | DRAWN | CHECKED |
|------------|----------|----------|-------|---------|
| 05/27/2025 | 23259-00 | KOL      | DH    | KOL     |



PROJECT DASH BUS FACILITY EXPANSION  
City of Alexandria, VA  
3000 Business Center Drive  
Alexandria, VA 22314  
DRAWING HIGH ROOF PLAN

SHEET  
A-103



|      |            |         |          |          |     |       |     |           |     |
|------|------------|---------|----------|----------|-----|-------|-----|-----------|-----|
| DATE | 05/27/2025 | PROJECT | 23259-00 | DESIGNED | KOL | DRAWN | OAD | CHECKED   | KOL |
| BY   |            | DES     |          | MARK     |     | DATE  |     | REVISIONS |     |

**RRMM ARCHITECTS, PC**  
 200 South Quincy Street, Suite 710  
 Arlington, Virginia 22206  
 (703)998-0101

05.27.2025  
 CEITH DOUGLAS LEONARD  
 Lic. No. 013202

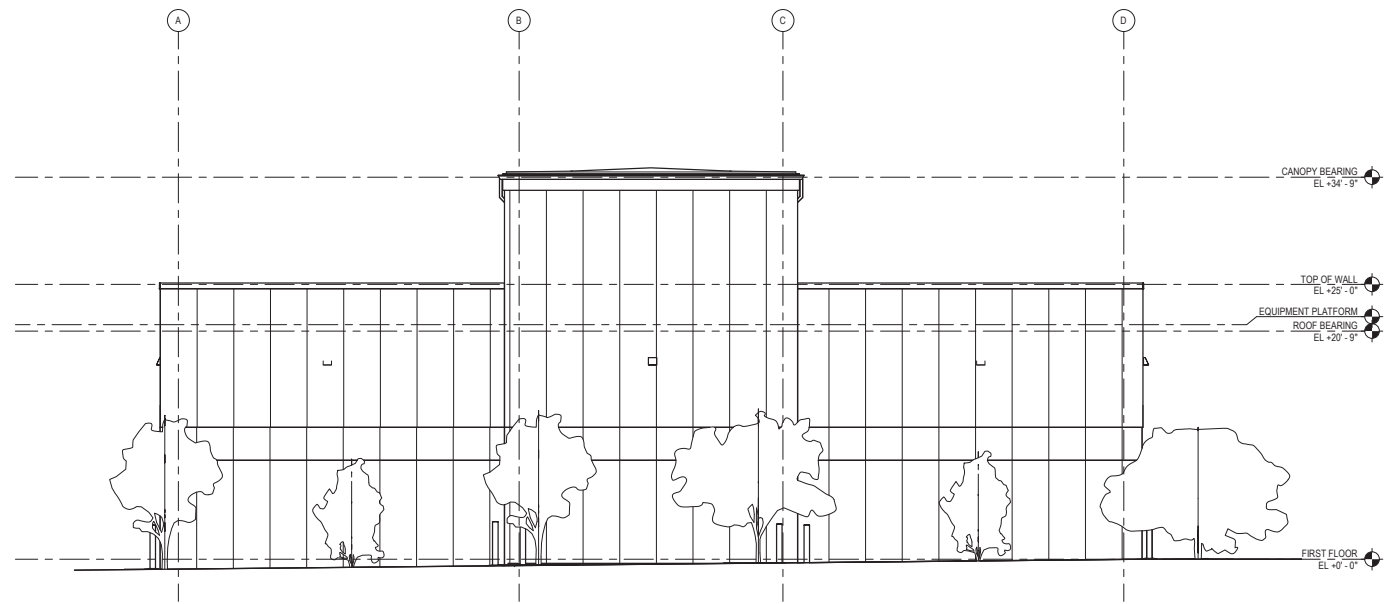
**DASH BUS FACILITY EXPANSION**  
 City of Alexandria, VA  
 3000 Bureau Center Drive  
 Alexandria, VA 22314

**BUILDING ELEVATIONS - RENDERED**

SHEET  
**A-200**



5/22/2025 3:00:49 PM Autodesk Docs (2325) 5-00 Alexandria City Draft Facility V2 3259-00 504 Alexandria City Draft - ARCH.rvt



1 RIGHT-OF-WAY ELEVATION  
A-202 SCALE: 3/16" = 1'-0"

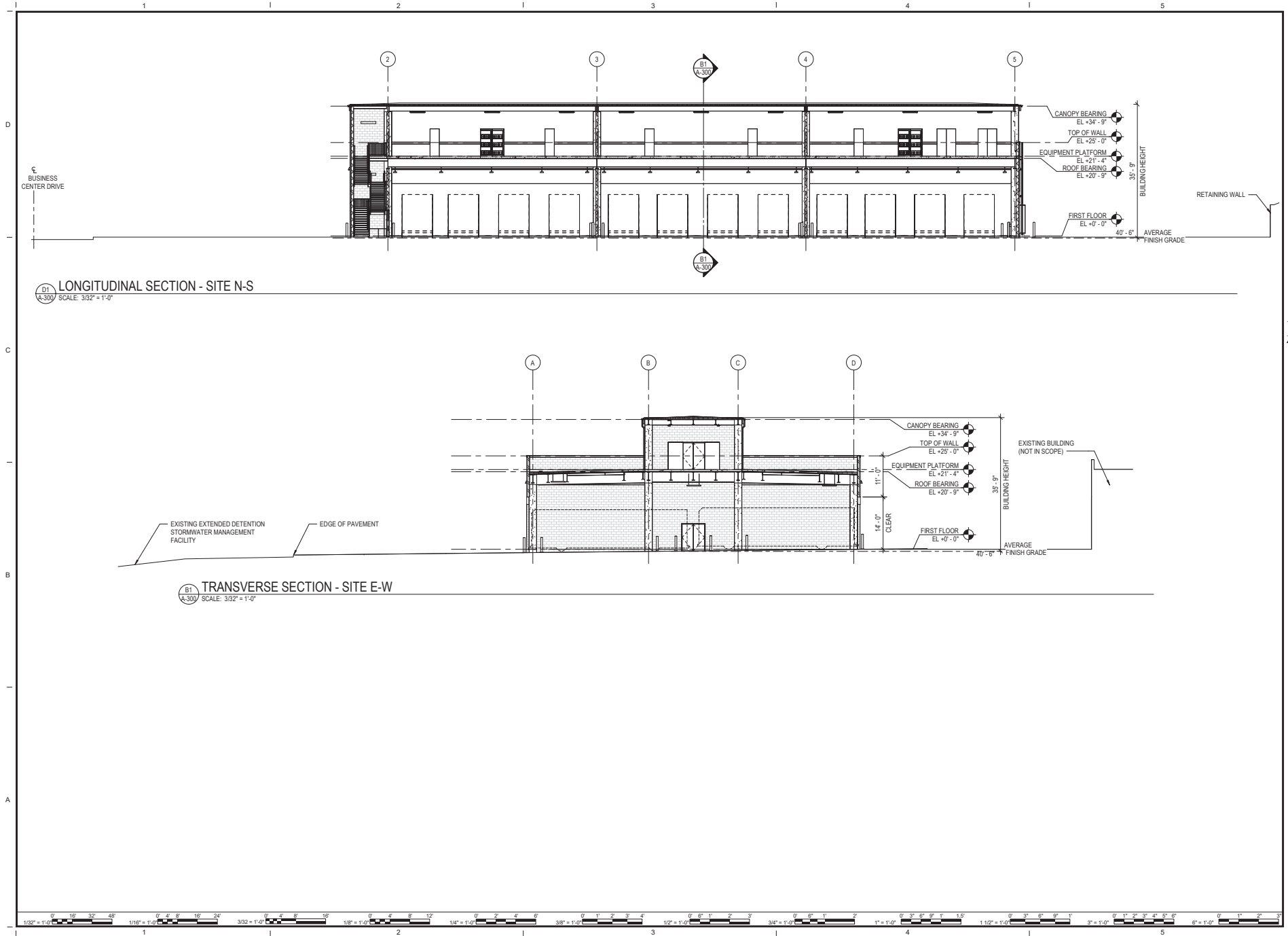
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| 05/27/2025 | 23259-00 | KDL      | KDL   | KDL     |      |      |    |     |

| DATE       | PROJECT  | DESIGNED | DRAWN | CHECKED | MARK | DATE | BY | DES |
|------------|----------|----------|-------|---------|------|------|----|-----|
| 05/27/2025 | 23259-00 | KDL      | KDL   | KDL     |      |      |    |     |



PROJECT DASH BUS FACILITY EXPANSION  
City of Alexandria, VA  
3000 Business Center Drive  
Alexandria, VA 22314  
DRAWING RIGHT-OF-WAY ELEVATION

SHEET  
A-202



| DATE       | PROJECT  | DESIGNED | DRAWN | CHECKED | MARK | DATE | REVISIONS |
|------------|----------|----------|-------|---------|------|------|-----------|
| 05/27/2025 | 23259-00 | KOL      | OAD   | KOL     |      |      |           |
|            |          |          |       |         | BY   | DES  |           |

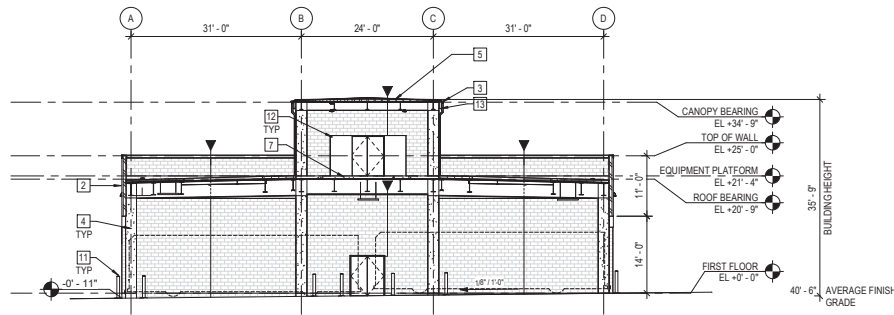
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| 05/27/2025 | 23259-00 | KOL      | OAD   | KOL     |



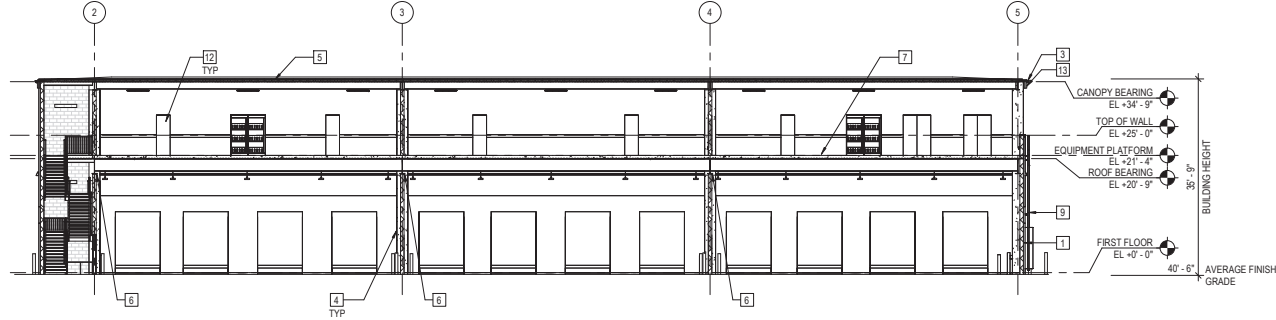
PROJECT DASH BUS FACILITY EXPANSION  
 City of Alexandria, VA  
 3000 Business Center Drive  
 Alexandria, VA 22314  
 DRAWING SITE SECTIONS

SHEET  
**A-300**

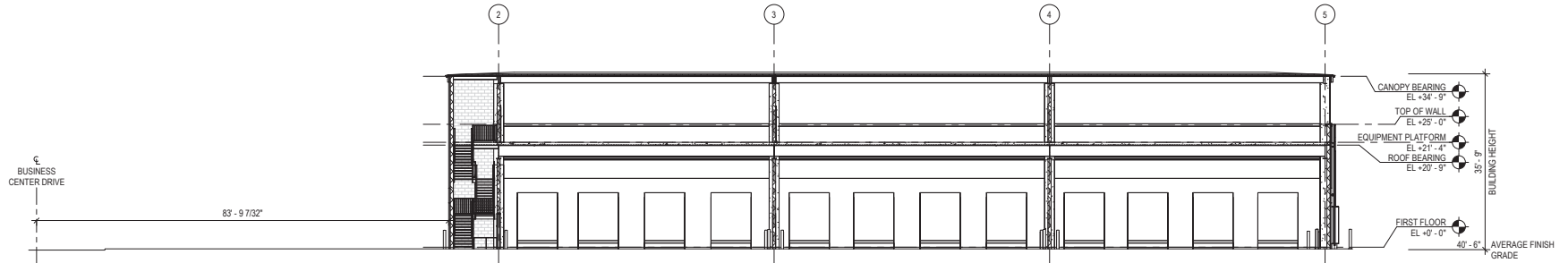
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D1 TRANSVERSE SECTION  
SCALE: 3/32" = 1'-0"



B1 LONGITUDINAL SECTION  
SCALE: 3/32" = 1'-0"



A1 HEIGHT TO SETBACK COMPLIANCE SECTION  
SCALE: 3/32" = 1'-0"

| SECTION NOTES |                                                                              |
|---------------|------------------------------------------------------------------------------|
| No.           | Note                                                                         |
| 1             | CMU WALL WITH EXTERIOR METAL PANEL                                           |
| 2             | METAL WALL PANEL ON COLD FORMED STEEL FRAMING                                |
| 3             | GUTTER WITH DOWNSPOUT AND SPLASHBLOCK AT COLUMNS                             |
| 4             | CONCRETE ENCASED STEEL WIDE FLANGE COLUMNS                                   |
| 5             | CANOPY ROOF                                                                  |
| 6             | PROVIDE SPRAY-APPLIED FIRE PROTECTION PER UL ASSEMBLY S801 FOR 3-HOUR RATING |
| 7             | CONCRETE FLOOR SLAB ON METAL DECK EQUIPMENT PLATFORM                         |
| 9             | ACCESS LADDER                                                                |
| 11            | BOLLARD                                                                      |
| 12            | BUS CHARGING AND ELECTRICAL EQUIPMENT                                        |
| 13            | FASCIA                                                                       |

| DATE       | PROJECT  | DESIGNED | DRAWN | CHECKED |
|------------|----------|----------|-------|---------|
| 05/27/2025 | 23259-00 | KOL      | OAD   | KOL     |

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ARCHITECTS, PC  
200 South Quincy Street, Suite 710  
Arlington, Virginia 22206  
(703)998-0101



**DASH BUS FACILITY EXPANSION**  
**City of Alexandria, VA**  
3000 Business Center Drive  
Alexandria, VA 22314  
**DRAWING BUILDING SECTIONS**

SHEET  
**A-301**

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## SCOPE OF WORK

- PROVIDE ROOF DRAINS AND OVERFLOW DRAINS TO SERVE BUS FACILITY EXPANSION.

## PLUMBING LEGEND

| LINE TYPE | SYSTEM ABBREVIATION | SYSTEM NAME               |
|-----------|---------------------|---------------------------|
| ----      | CW                  | DOMESTIC COLD WATER       |
| -----     | HW                  | DOMESTIC HOT WATER        |
| -----     | HWR                 | DOMESTIC HOT WATER RETURN |
| -----     | G                   | NATURAL GAS               |
| -----     | LP                  | LIQUID PROPANE            |
| -----     | SAH                 | SANITARY WASTE            |
| -----     | V                   | VENT                      |
| -----     | ST                  | STORM                     |
| -----     | OD                  | OVERFLOW DRAIN            |
| -----     | CD                  | CONDENSATE DRAIN          |

PIPING SYMBOLS

|  |                  |
|--|------------------|
|  | BREAK LINE       |
|  | ISOLATION VALVE  |
|  | CAP ON PIPE      |
|  | CHECK VALVE      |
|  | PIPE TURNED UP   |
|  | PIPE TURNED DOWN |

PHASING SYMBOLS

|       |                       |
|-------|-----------------------|
|       | EXTENT OF DEMOLITION  |
|       | POINT OF RECONNECTION |
| ----  | EXISTING CONDITIONS   |
| ----  | NEW WORK              |
| ----- | DEMOLITION            |

## GENERAL NOTES

- DRAWINGS ARE DIAGRAMMATIC AND NOT ALL APPURTENANCES ARE SHOWN. 3-D DRAWINGS AND RISERS ARE PROVIDED FOR INFORMATIONAL PURPOSES ONLY AND ARE MEANT TO CONVEY DESIGN INTENT. ALLOW FOR ADDITIONAL PIPE OFFSETS, AS REQUIRED, PROVIDE ALL MATERIALS AND LABOR TO PROVIDE A COMPLETE AND OPERABLE SYSTEM IN ACCORDANCE WITH THE CONTRACT DRAWINGS, SPECIFICATIONS, AND AUTHORITY HAVING JURISDICTION.
- COORDINATE INSTALLATION OF WORK WITH ALL OTHER TRADES.
- COORDINATE SIZE AND LOCATION OF CONCRETE EQUIPMENT PADS. PROVIDE A MINIMUM OF 8 INCHES THICK PADS THAT EXTEND BEYOND EQUIPMENT FOOTPRINT BY A MINIMUM OF 8 INCHES UNLESS OTHERWISE NOTED.
- COORDINATE SIZE AND LOCATIONS OF ALL FLOOR, WALL, AND ROOF OPENINGS REQUIRED TO INSTALL THE WORK WITH ALL TRADES.
- COORDINATE PIPING LAYOUT WITH OPENINGS IN STRUCTURAL BEAMS, WALLS, ELEMENTS, ETC.
- COORDINATE REQUIREMENTS FOR PROVISION OF MOTOR STARTERS, DISCONNECTS, CONTACTORS, CONTROL WIRING, ETC. AS REQUIRED FOR A PROPER FUNCTIONING SYSTEM WITH THE ELECTRICAL AND CONTROLS CONTRACTORS.
- MAINTAIN A SET OF COORDINATION DRAWINGS AT THE JOB SITE THAT ACCOUNTS FOR ALL TRADES. REVIEW THE COORDINATION DRAWINGS, COORDINATE WITH ALL TRADES, AND RESOLVE ANY POTENTIAL CONFLICTS PRIOR TO INSTALLING ANY PORTION OF WORK.
- SUBMIT WRITTEN REQUEST FOR INFORMATION WHERE CONSTRUCTABILITY ISSUES ARE ENCOUNTERED IN THE FIELD. PROVIDE A FULL DESCRIPTION OF THE ISSUE AND RECOMMENDED SOLUTIONS. INCLUDE SKETCHES FOR EACH OPTION ALONG WITH ANY ASSOCIATED CHANGE ORDER COST ESTIMATES.
- ANY DEVIATIONS FROM THE DRAWINGS MUST BE APPROVED IN WRITING BY THE ENGINEER OF RECORD. ANY CHANGES OR MODIFICATIONS MADE WITHOUT CONSENT MAY RESULT IN WORK BEING REMOVED AND INSTALLED ACCORDING TO THE PLANS.
- SPECIFICATIONS AND DRAWINGS ARE COMPLEMENTARY AND MUST BE USED IN COMBINATION TO OBTAIN COMPLETE CONSTRUCTION INFORMATION. SUBMIT WRITTEN REQUEST FOR INFORMATION IF ANY DISCREPANCIES BETWEEN SPECIFICATION AND DRAWINGS ARE FOUND.
- PROVIDE ONLY NEW MATERIALS AND EQUIPMENT FROM REPUTABLE MANUFACTURERS REGULARLY ENGAGED IN THE MANUFACTURE OF SUCH PRODUCTS. PERFORM ALL WORK IN A PROFESSIONAL MANNER BY WORKERS SKILLED IN THE TYPE OF WORK BEING PERFORMED.
- KEEP THE WORK SITE AND SURROUNDING AREA FREE FROM ACCUMULATION OF WASTE MATERIALS GENERATED BY WORK PERFORMED UNDER THIS CONTRACT. REMOVE CONSTRUCTION DEBRIS FROM THE WORK SITE DAILY AND DISPOSE OF IT IN A LEGAL MANNER.
- PROVIDE WARRANTY FOR ALL WORK (MATERIALS, LABOR, AND EQUIPMENT) FOR A PERIOD OF ONE YEAR COMMENCING WITH THE DATE OF ACCEPTANCE OF ALL WORK BY THE OWNER UNLESS OTHERWISE NOTED IN THE SPECIFICATIONS.
- OBTAIN ALL LICENSES AND PERMITS REQUIRED BY STATE AND LOCAL JURISDICTIONAL AUTHORITIES FOR PERFORMANCE OF WORK.
- MAINTAIN A RED LINE SET OF RECORD DRAWINGS AT THE JOB SITE THAT REFLECT ACTUAL EXECUTION OF THE WORK INCLUDING UPDATED EQUIPMENT SCHEDULES, DETAILS, CONTROL DIAGRAMS AND SEQUENCES AND LOCATIONS OF EQUIPMENT, PIPING, AND DUCTWORK. PROVIDE THESE DRAWINGS IN CAD AND PDF FORMAT TO THE OWNER (AS-BUILT DRAWINGS).
- SUPPORT THE COMMISSIONING AGENT'S EFFORTS IN COMMISSIONING THE DOMESTIC HOT WATER SYSTEM PER IECC REQUIREMENTS INCLUDING PROVISION OF OPERATION AND MAINTENANCE MANUALS TO OWNER. EXECUTION OF FUNCTIONAL PERFORMANCE TEST PROCEDURES, AND TRAINING OF OWNER O&M PERSONNEL. DOCUMENTATION SHALL BE PROVIDED TO THE OWNER WITHIN 90 DAYS OF RECEIVING THE CERTIFICATE OF OCCUPANCY. PROVIDE O&M MANUALS FOR ALL EQUIPMENT IN HARD COPY AND ELECTRONIC FORMAT (BOTH BOOKMARKED).
- DETAILS ARE DIAGRAMMATIC AND ARE INTENDED TO SHOW REQUIRED ACCESSORIES AND RELATIVE ARRANGEMENT OF ELEMENTS OF CONSTRUCTION. CONTRACTOR SHALL ADAPT INSTALLATION RELATIVE TO SITE CONDITIONS AND MANUFACTURER'S INSTALLATION INSTRUCTIONS.

### PLUMBING INSTALLATION NOTES

- MAINTAIN A MINIMUM OF 6" CLEARANCE FROM FLOOR TO UNDERSIDE OF ALL WORK THROUGHOUT ACCESS ROUTES IN MECHANICAL ROOMS.
- DO NOT BLOCK ANY DOORS OR WINDOWS.
- COMPLETE ALL TESTS BEFORE ANY INSULATION IS APPLIED.
- UNLESS OTHERWISE NOTED, INSTALL ALL PIPING OVERHEAD TIGHT TO STRUCTURE ABOVE.
- DO NOT CLOSE IN WALLS OR CEILINGS PRIOR TO INSPECTION BY ENGINEER OR OWNER'S REPRESENTATIVE. PROVIDE CLEAR UNOBSTRUCTED ACCESS TO WORK AND ANY LIFTS OR LADDERS NEEDED FOR INSPECTIONS. DURING INSPECTIONS, PROVIDE PERSONNEL FAMILIAR WITH THE WORK AND TECHNICAL REQUIREMENTS OF THE WORK TO WALK THE ENGINEER/OWNER'S REPRESENTATIVE THROUGH THE WORK TO BE INSPECTED, DESCRIBE PROGRESS, AND ANSWER QUESTIONS. MAINTAIN A RECORD OF WORK INSPECTED AND COORDINATE WITH ENGINEER/OWNER'S REPRESENTATIVE ON PROGRESS OF INSPECTION UNTIL COMPLETION. SCHEDULE INSPECTIONS WITH ENGINEER/OWNER'S REPRESENTATIVE A MINIMUM OF 2 WEEKS PRIOR.
- LOCATE PRESSURE, TEMPERATURE, AND FLOW MEASURING DEVICES IN ACCESSIBLE LOCATIONS WITH STRAIGHT SECTIONS OF DUCT/PIPE UPSTREAM/DOWNSTREAM IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- THE PRODUCT OF A SINGLE MANUFACTURER SHALL BE USED FOR EACH ITEM OF THE SAME EQUIPMENT TYPE.
- CONFORM TO ASTM 315 AND A618 FOR REINFORCEMENT, DETAILING, AND PLACEMENT OF CONCRETE. CONCRETE SHALL CONFORM TO ASTM C84. CONCRETE WORK SHALL CONFORM TO A618. PART ENTITLED "CONSTRUCTION REQUIREMENTS." COMPRESSIVE STRENGTH IN 28 DAYS SHALL BE 3,000 PSI. TOTAL AIR CONTENT OF EXTERIOR CONCRETE SHALL BE BETWEEN 5 AND 7 PERCENT BY VOLUME. SLUMP SHALL BE BETWEEN 3 AND 4 INCHES. CONCRETE SHALL BE CURED FOR 7 DAYS AFTER PLACEMENT.
- INSTALL ALL CONTROL WIRE IN CONDUIT. CONTROL WIRE AND CONDUIT SHALL COMPLY WITH THE NATIONAL ELECTRIC CODE AND THE ELECTRICAL SPECIFICATIONS.
- PROVIDE ACCESS PANELS/DOORS IN CEILINGS, WALLS, AND FLOORS FOR ALL ITEMS REQUIRING ADJUSTMENT, TESTING, OR INSPECTION INCLUDING VALVES, STRAINERS, SENSORS, TRAP PRIMERS, WATER HAMMER ARRESTORS, CLEANOUTS, ETC.
- PROVIDE WATER HAMMER ARRESTORS ON PIPING SERVING FLUSH VALVES AND QUICK CLOSING VALVES. SIZE AND LOCATE PER MANUFACTURERS INSTRUCTIONS AND IN ACCORDANCE WITH THE PLUMBING AND DRAINAGE INSTITUTE STANDARD PDI WH-201.
- ATTACH PIPING EQUIPMENT, ETC. SUPPORTS TO STEEL BAR JOISTS, TRUSSES, OR JOIST GIRDERS AT PANEL POINTS. PROVIDE BEAM CLAMPERS MEETING MSS STANDARDS. DO NOT SUPPORT WORK FROM METAL DECK.
- PROVIDE UL LISTED PENETRATION ASSEMBLIES WHERE PIPES PENETRATE FIRE/SMOKE RATED HORIZONTAL AND VERTICAL CONSTRUCTION THAT MAINTAIN THE FIRE/SMOKE RESISTANCE RATING.
- PROVIDE MINERAL WOOL PACKING AND CAULK AT ALL NON-RATED FLOOR PENETRATIONS.
- PROVIDE SLEEVES AT ALL FLOOR, WALL, AND ROOF PENETRATIONS.
- PROVIDE MECHANICAL SLEEVE SEAL SYSTEM AT ALL BELOW GRADE FLOOR AND WALL PENETRATIONS.
- ALL PRODUCTS LOCATED IN PLENUM AREAS SHALL HAVE A MAXIMUM FLAME SPREAD INDEX OF 25 AND A MAXIMUM SMOKE DEVELOPED INDEX OF 50 WHEN TESTED IN ACCORDANCE WITH ASTM E 84 OR ANSIUL 723.
- SEAL ALL PENETRATIONS OF SLAB-TO-SLAB PARTITIONS AND SHAFTS AIRTIGHT TO PRESERVE RETURN AIR PATHWAYS.
- ALL PIPE SIZES SHOWN ARE NOMINAL SIZES.
- PROVIDE EXTENSIONS FOR VALVE HANDLES, GAUGES, PIPE ACCESSORIES FOR INSULATED SYSTEMS ALLOWING COMPLETE INSULATION OF THE SYSTEM AND ACCESS TO ADJUST/VIEW SUCH ACCESSORIES WITHOUT REMOVAL OF INSULATION.
- FIRE PROTECTION/SPRINKLER SYSTEM DESIGN IS A DELEGATED DESIGN. COORDINATE WITH SPRINKLER CONTRACTOR FOR PROVISION / INSTALLATION OF COMBINED PRE-DOMESTIC WATER SERVICE, SPRINKLER SYSTEM CONNECTION POINT, FLOOR DRAINS AT SPRINKLER RISERS/DRAINS, ETC.

### PLUMBING GENERAL PIPING NOTES

- SOME ACCESS DOORS, ISOLATION VALVES, ETC. ARE INDICATED ON DRAWINGS FOR CLARITY FOR SPECIFIC LOCATION REQUIREMENTS BUT DO NOT INDICATE THE EXTENT OF THE REQUIREMENTS FOR THESE ITEMS.
  - THE LOCATION OF EXISTING UNDERGROUND/SUB SLAB UTILITIES IS APPROXIMATE. VERIFY THE EXACT LOCATION OF UTILITIES BEFORE BEGINNING WORK.
  - COORDINATE WITH SITE CONTRACTOR FOR CONNECTION TO SITE UTILITIES PRIOR TO INSTALLATION.
  - SCOPE OF WORK FOR UNDERGROUND PIPING EXTENDS TO A POINT APPROXIMATELY 3 FEET OUTSIDE THE BUILDING FOOTPRINT UNLESS OTHERWISE INDICATED.
  - PROVIDE VIBRATION ISOLATION AT PIPING SUPPORTS WITHIN 50 FEET OF EQUIPMENT THAT REQUIRES VIBRATION ISOLATION.
  - PROVIDE FLEXIBLE CONNECTIONS TO PUMPS AND OTHER EQUIPMENT WHICH REQUIRES VIBRATION ISOLATION.
  - ELEVATIONS SHOWN ON THE DRAWINGS ARE TO THE UNDERSIDE OF ALL PRESSURE PIPING AND TO THE INVERT OF ALL GRAVITY PIPING UNLESS OTHERWISE NOTED.
  - INSTALL UNDERGROUND PIPING BELOW THE FROST LINE AND A MINIMUM OF 36 INCHES BELOW GRADE.
  - PROVIDE ISOLATION VALVES AND UNIONS OR FLANGES AT PIPING CONNECTIONS TO EQUIPMENT, PUMPS, AND OTHER COMPONENTS REQUIRING MAINTENANCE TO ALLOW FOR REMOVAL.
  - PROVIDE ESCUTCHEON PLATES FOR EXPOSED WALL, CEILING, AND FLOOR PIPE PENETRATIONS AND PAINT EXPOSED PIPING IN FINISHED ROOMS.
  - PROVIDE ALUMINUM VALVE TAGS AND LAMINATED VALVE SCHEDULE IN MECHANICAL ROOM. ALSO INCLUDE VALVE SCHEDULE IN AS-BUILT DRAWINGS.
  - PROVIDE DIELECTRIC FLANGES OR NIPPLES AT CONNECTIONS OF DISSIMILAR PIPE.
  - SUPPORT PIPING SYSTEMS AND PROTECT AGAINST PHYSICAL DAMAGE AND EXCESSIVE STRESSES IN ACCORDANCE WITH MSS SP-58, PIPE HANGERS AND SUPPORTS - MATERIALS, DESIGN, MANUFACTURE, SELECTION, APPLICATION, AND INSTALLATION.
  - PRESSURE TEST, CLEAN, FLUSH, AND DISINFECT ALL PIPING BEFORE PUTTING INTO SERVICE.
  - PIPE RISERS SHALL BE ARCHITECTURALLY ENCLOSED UNLESS OTHERWISE NOTED.
  - INSTALL DRAINS AT THE LOW POINTS OF ROOFS, AREAWAYS, AND FLOORS, UNLESS OTHERWISE NOTED.
  - PROVIDE CLEANOUTS FOR HORIZONTAL STORM AND WASTE AT EVERY CHANGE IN DIRECTION, NEAR THE BASE OF STACKS AT THE ENDS OF RUNS, AND AT 50' FOOT INTERVALS, MINIMUM.
  - PROVIDE CLEANOUT AT JUNCTION OF THE BUILDING DRAIN AND BUILDING SEWER (30 INCHES OF DEVELOPED LENGTH FROM THE EXTERIOR OF THE BUILDING) OR WITHIN 10 FEET OF DEVELOPED LENGTH UPSTREAM AS REQUIRED PER IPC.
  - CLEANOUT SIZE SHALL MATCH THE SIZE OF THE CONNECTED PIPE FOR PIPE SIZES UP TO SIX INCHES. PROVIDE SIX-INCH CLEANOUTS FOR PIPE SIZES LARGER THAN SIX INCHES.
  - PROVIDE TRAP PRIMER FOR ALL EMERGENCY FLOOR DRAINS OR DEEP TRAP WHERE ALLOWED BY AUL, UNLESS OTHERWISE NOTED.
  - DO NOT ROUTE PIPING OVER ELECTRICAL PANELS, TRANSFORMERS, OR ELECTRICAL EQUIPMENT.
  - PROVIDE PROTECTIVE STEEL SHIELD PLATES PER IPC WHERE CONCEALED PIPING IS INSTALLED NEAR EDGE OF STUDS, JOISTS, RAFTERS, ETC.
  - BRANCH SUPPLY, DRAIN, AND VENT PIPE SIZE SHALL MATCH EQUIPMENT/FIXTURE CONNECTION SIZE UNLESS OTHERWISE NOTED.
- PLUMBING SANITARY, VENT, AND STORM PIPING NOTES
- DRAINAGE PIPE SHALL SLOPE DOWNWARD IN THE DIRECTION OF FLOW A MINIMUM SLOPE AS LISTED BELOW UNLESS OTHERWISE NOTED.
  - STORM WATER: 1/8 INCH PER FOOT

## PLUMBING SHEET LIST

| SHEET NUMBER | SHEET NAME           |
|--------------|----------------------|
| P-001        | PLUMBING COVER SHEET |
| P-101        | DRAINAGE FLOOR PLAN  |
| P-102        | PLUMBING ROOF PLAN   |

| DATE | PROJECT | DESIGNED | DRAWN | CHECKED |
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|--------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| ENGINEERS<br>PLANNERS<br>SURVEYORS<br>ARCHITECTS<br>LANDSCAPE ARCHITECTS | KCI<br>KCI CONSULTANTS, INC.<br>1000 HENDERSON ROAD<br>SPRINGFIELD, MD 21152<br>WWW.KCI.COM |
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PROJECT DASH BUS FACILITY EXPANSION  
CITY OF ALEXANDRIA  
301 King Street, Alexandria, Virginia 22314

DRAWING PLUMBING COVER SHEET

SHEET  
P-001



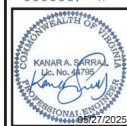
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PROJECT DASH BUS FACILITY EXPANSION  
CITY OF ALEXANDRIA  
301 King Street, Alexandria, Virginia 22314

DRAWING DRAINAGE FLOOR PLAN

SHEET  
P-101

1 2" DOWNSPOUT SHALL DRAIN ONTO LOWER ROOF.

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| REVISIONS |      |    |     |

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| PROJECT | DESIGNED | DRAWN | CHECKED |
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301 King Street, Alexandria, Virginia 22314

**DRAWING PLUMBING ROOF PLAN**

P-102

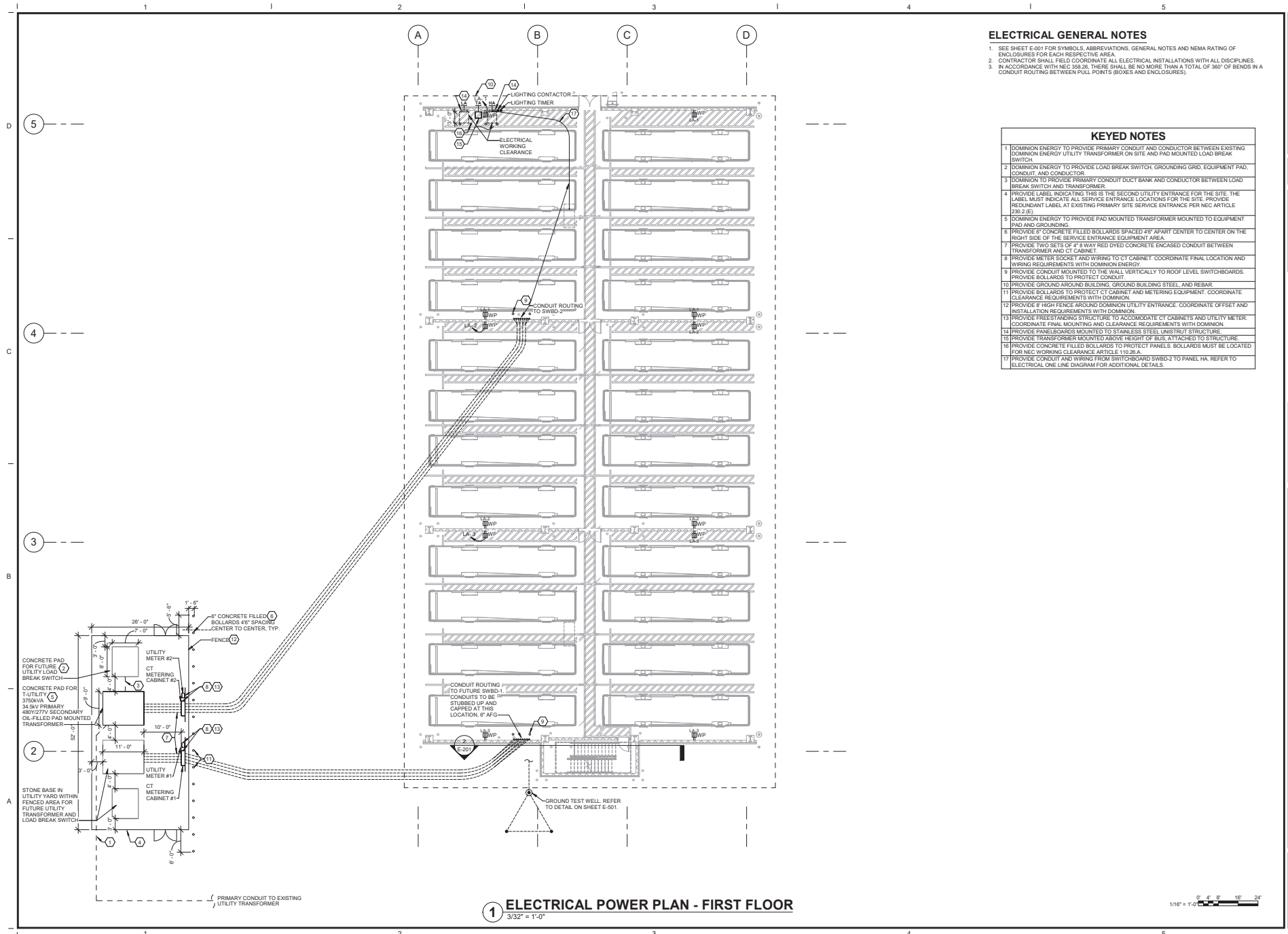
**1 PLUMBING ROOF PLAN**  
3/32" = 1'-0"







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1 ELECTRICAL POWER PLAN - FIRST FLOOR  
3/32" = 1'-0"

### ELECTRICAL GENERAL NOTES

- SEE SHEET E-001 FOR SYMBOLS, ABBREVIATIONS, GENERAL NOTES AND NEMA RATING OF ENCLOSURES FOR EACH RESPECTIVE AREA.
- CONTRACTOR SHALL FIELD COORDINATE ALL ELECTRICAL INSTALLATIONS WITH ALL DISCIPLINES.
- IN ACCORDANCE WITH NEC 368.26, THERE SHALL BE NO MORE THAN A TOTAL OF 360° OF BENDS IN A CONDUIT ROUTING BETWEEN PULL POINTS (BOXES AND ENCLOSURES).

### KEYED NOTES

- DOMINION ENERGY TO PROVIDE PRIMARY CONDUIT AND CONDUCTOR BETWEEN EXISTING DOMINION ENERGY UTILITY TRANSFORMER ON SITE AND PAD MOUNTED LOAD BREAK SWITCH.
- DOMINION ENERGY TO PROVIDE LOAD BREAK SWITCH, GROUNDING GRID, EQUIPMENT PAD, CONDUIT, AND CONDUCTOR.
- DOMINION TO PROVIDE PRIMARY CONDUIT DUCT BANK AND CONDUCTOR BETWEEN LOAD BREAK SWITCH AND TRANSFORMER.
- PROVIDE LABEL INDICATING THIS IS THE SECOND UTILITY ENTRANCE FOR THE SITE. THE LABEL MUST INDICATE ALL SERVICE ENTRANCE LOCATIONS FOR THE SITE. PROVIDE REDUNDANT LABEL AT EXISTING PRIMARY SITE SERVICE ENTRANCE PER NEC ARTICLE 230.2 (E).
- DOMINION ENERGY TO PROVIDE PAD MOUNTED TRANSFORMER MOUNTED TO EQUIPMENT PAD AND GROUNDING.
- PROVIDE 8" CONCRETE FILLED BOLLARDS SPACED 4' ON CENTER TO CENTER ON THE RIGHT SIDE OF THE SERVICE ENTRANCE EQUIPMENT AREA.
- PROVIDE TWO SETS OF 4" 8 WAY RED DYED CONCRETE ENCASED CONDUIT BETWEEN TRANSFORMER AND CT CABINET.
- PROVIDE METER SOCKET AND WIRING TO CT CABINET. COORDINATE FINAL LOCATION AND WIRING REQUIREMENTS WITH DOMINION ENERGY.
- PROVIDE CONDUIT MOUNTED TO THE WALL VERTICALLY TO ROOF LEVEL SWITCHBOARDS. PROVIDE BOLLARDS TO PROTECT CONDUIT.
- PROVIDE GROUND AROUND BUILDING. GROUND BUILDING STEEL AND REBAR.
- PROVIDE BOLLARDS TO PROTECT CT CABINET AND METERING EQUIPMENT. COORDINATE CLEARANCE REQUIREMENTS WITH DOMINION.
- PROVIDE 8' HIGH FENCE AROUND DOMINION UTILITY ENTRANCE. COORDINATE OFFSET AND INSTALLATION REQUIREMENTS WITH DOMINION.
- PROVIDE FREESTANDING STRUCTURE TO ACCOMMODATE CT CABINETS AND UTILITY METER. COORDINATE FINAL MOUNTING AND CLEARANCE REQUIREMENTS WITH DOMINION.
- PROVIDE PANELBOARDS MOUNTED TO STAINLESS STEEL UNISTRUT STRUCTURE.
- PROVIDE TRANSFORMER MOUNTED ABOVE HEIGHT OF BUS ATTACHED TO STRUCTURE.
- PROVIDE CONCRETE FILLED BOLLARDS TO PROTECT PANELS. BOLLARDS MUST BE LOCATED FOR NEC WORKING CLEARANCE ARTICLE 110.26(A).
- PROVIDE CONDUIT AND WIRING FROM SWITCHBOARD SWBD-2 TO PANEL 1A. REFER TO ELECTRICAL ONE LINE DIAGRAM FOR ADDITIONAL DETAILS.

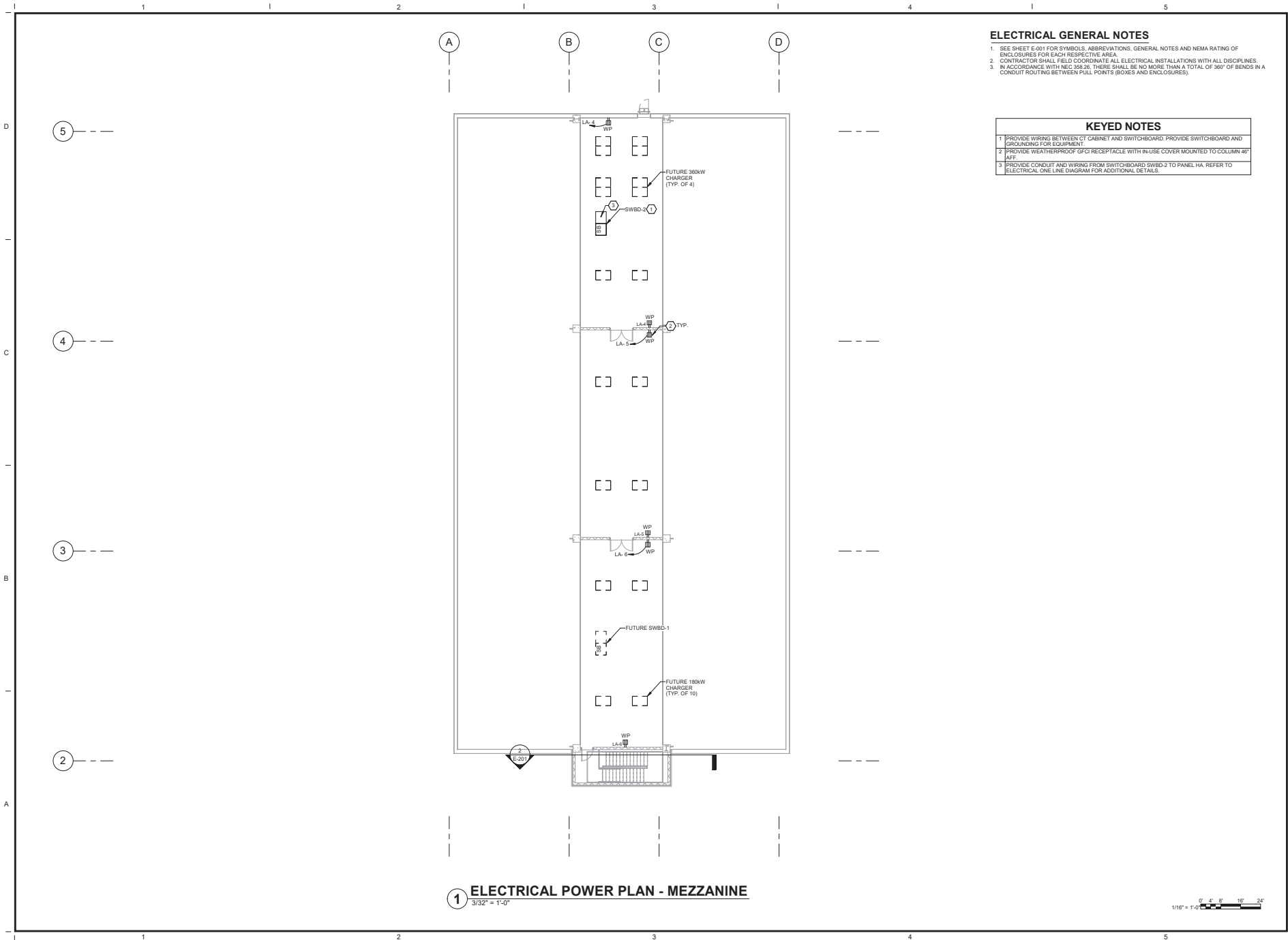
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PROJECT DASH BUS FACILITY EXPANSION  
CITY OF ALEXANDRIA  
301 King Street, Alexandria, Virginia 22314  
DRAWING ELECTRICAL POWER PLAN - FIRST FLOOR

SHEET  
E-101



### ELECTRICAL GENERAL NOTES

1. SEE SHEET E-001 FOR SYMBOLS, ABBREVIATIONS, GENERAL NOTES AND NEMA RATING OF ENCLOSURES FOR EACH RESPECTIVE AREA.
2. CONTRACTOR SHALL FIELD COORDINATE ALL ELECTRICAL INSTALLATIONS WITH ALL DISCIPLINES.
3. IN ACCORDANCE WITH NEC 368.26, THERE SHALL BE NO MORE THAN A TOTAL OF 360° OF BENDS IN A CONDUIT ROUTING BETWEEN PULL POINTS (BOXES AND ENCLOSURES).

### KEYED NOTES

1. PROVIDE WIRING BETWEEN CT CABINET AND SWITCHBOARD. PROVIDE SWITCHBOARD AND GROUNDING FOR EQUIPMENT.
2. PROVIDE WEATHERPROOF GFCI RECEPTACLE WITH IN-USE COVER MOUNTED TO COLUMN 4B' 4B' 4B'.
3. PROVIDE CONDUIT AND WIRING FROM SWITCHBOARD SWBD-2 TO PANEL 1A. REFER TO ELECTRICAL ONE LINE DIAGRAM FOR ADDITIONAL DETAILS.

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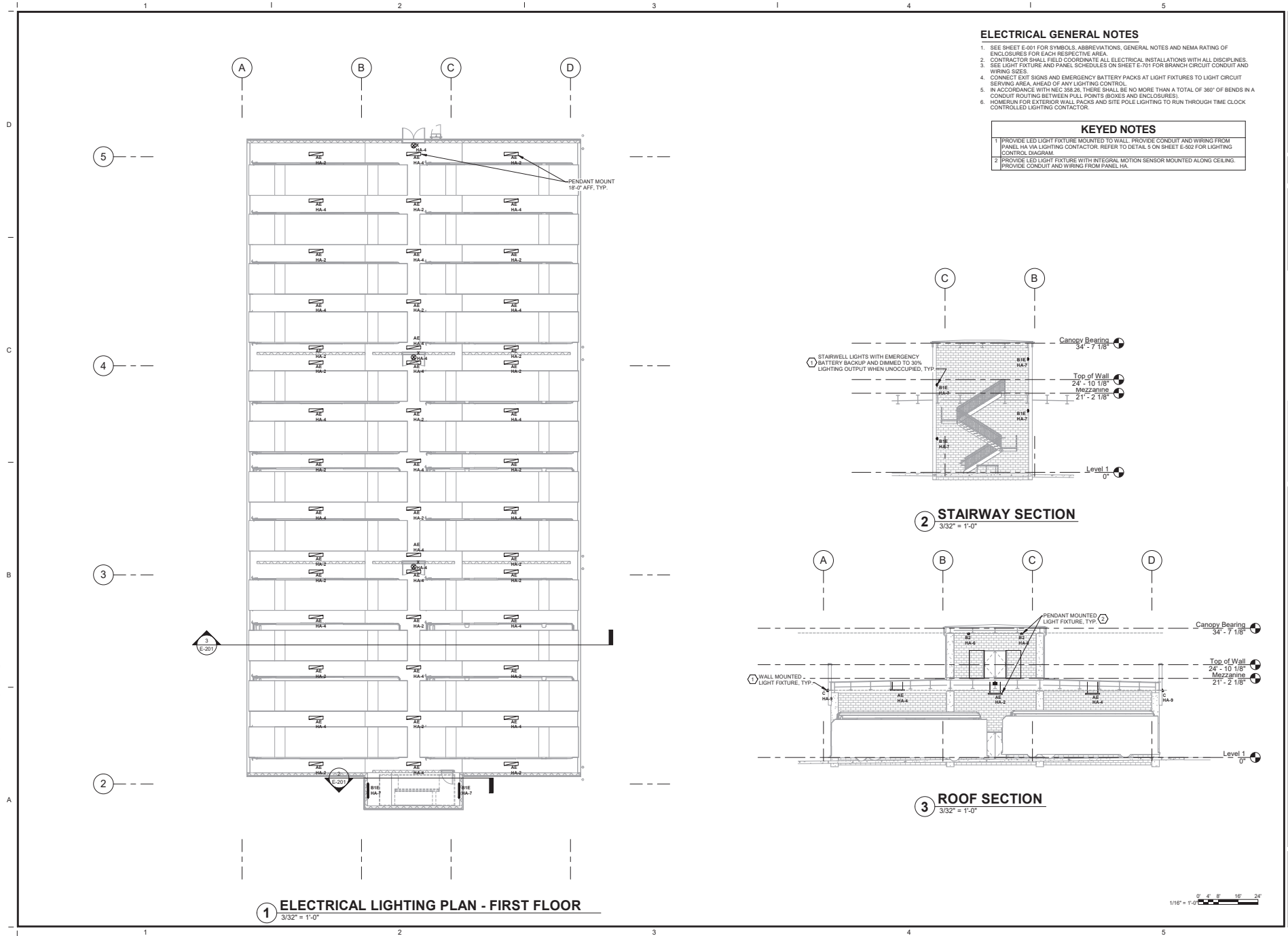
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**ENGINEERS**  
**PLANNERS**  
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**PROJECT** DASH BUS FACILITY EXPANSION  
**CITY OF ALEXANDRIA**  
 301 King Street, Alexandria, Virginia 22314  
**DRAWING** ELECTRICAL POWER PLAN - EQUIPMENT PLATFORM

SHEET  
**E-102**



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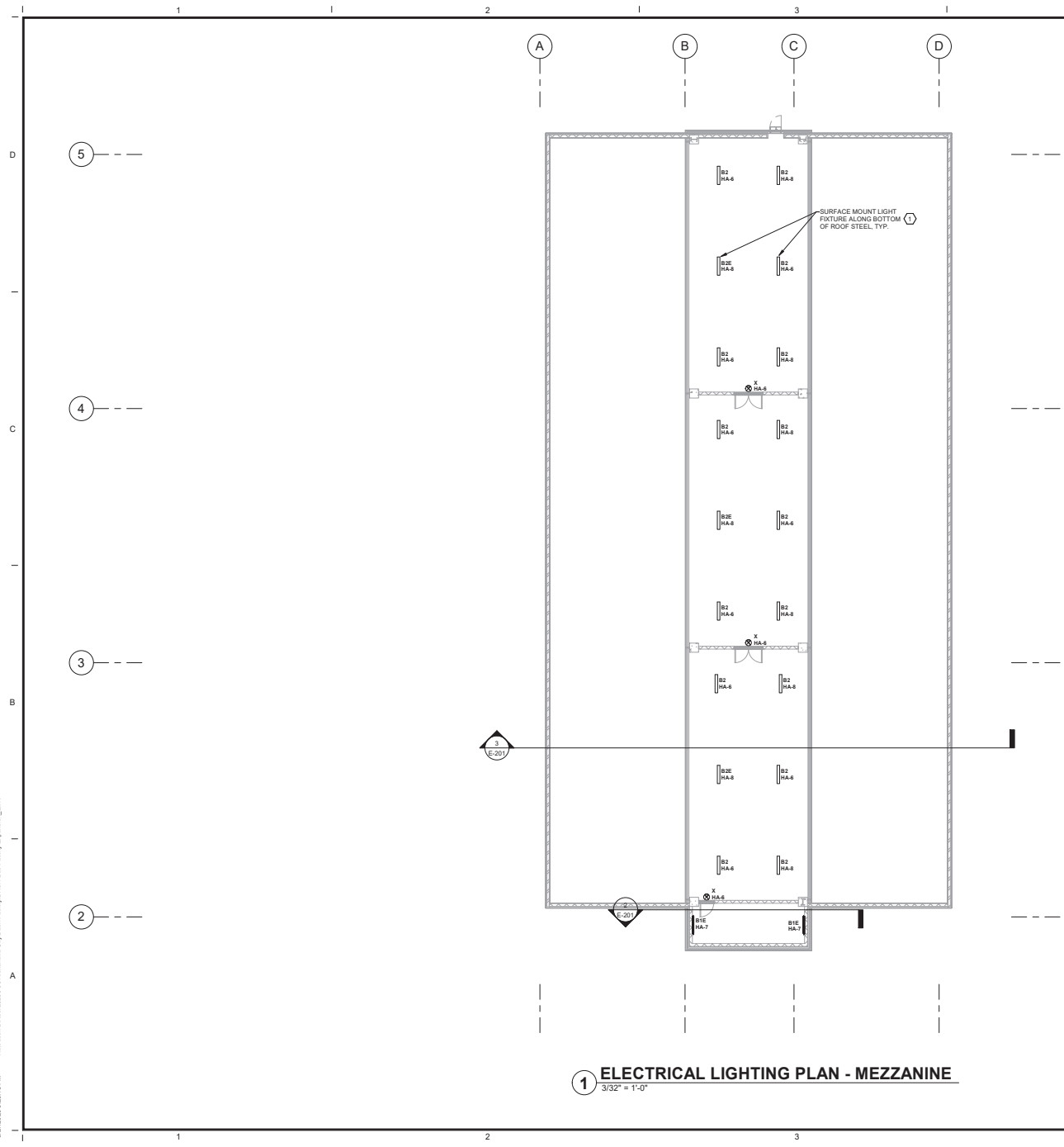
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PROJECT DASH BUS FACILITY EXPANSION  
CITY OF ALEXANDRIA  
301 King Street, Alexandria, Virginia 22314  
DRAWING ELECTRICAL LIGHTING PLAN - FIRST FLOOR

SHEET  
**E-201**



## ELECTRICAL GENERAL NOTES

1. SEE SHEET E-001 FOR SYMBOLS, ABBREVIATIONS, GENERAL NOTES AND NEMA RATING OF ENCLOSURES FOR EACH RESPECTIVE AREA.
2. CONTRACTOR SHALL FIELD COORDINATE ALL ELECTRICAL INSTALLATIONS WITH ALL DISCIPLINES. PROVIDE ALL FIELD FIXTURES AND EQUIPMENT SCHEDULED ON SHEET E-701 FOR BRANCH CIRCUIT CONDUIT AND WIRING SIZES.
3. CONNECT EXIT SIGNS AND EMERGENCY BATTERY PACKS AT LIGHT FIXTURES TO LIGHT CIRCUIT AND PROVIDE BATTERY BACKUP FOR ALL LIGHTS IN THE AREA. AHEAD OF ANY LIGHTING CONTROLLER.
4. IN ACCORDANCE WITH NEC 358.26, THERE SHALL BE NO MORE THAN A TOTAL OF 360° OF BENDS IN A CONDUIT ROUTING BETWEEN PULL POINTS (BOXES AND ENCLOSURES).
5. DETERMIN FOR EXTERIOR WALL PACKS AND SITE POLE LIGHTING TO RUN THROUGH TIME CLOCK CONTROLLED LIGHTING CONTROLLER.

## KEYED NOTES

- |   |                                                                                                                           |
|---|---------------------------------------------------------------------------------------------------------------------------|
| 1 | PROVIDE LED LIGHT FIXTURE WITH INTEGRAL MOTION SENSOR MOUNTED ALONG CEILING.<br>PROVIDE CONDUIT AND WIRING FROM PANEL HA. |
|---|---------------------------------------------------------------------------------------------------------------------------|

**1 ELECTRICAL LIGHTING PLAN - MEZZANINE**  
3/32" = 1'-0"

0' 4' 8' 16' 24'

1/16" = 1'-0"

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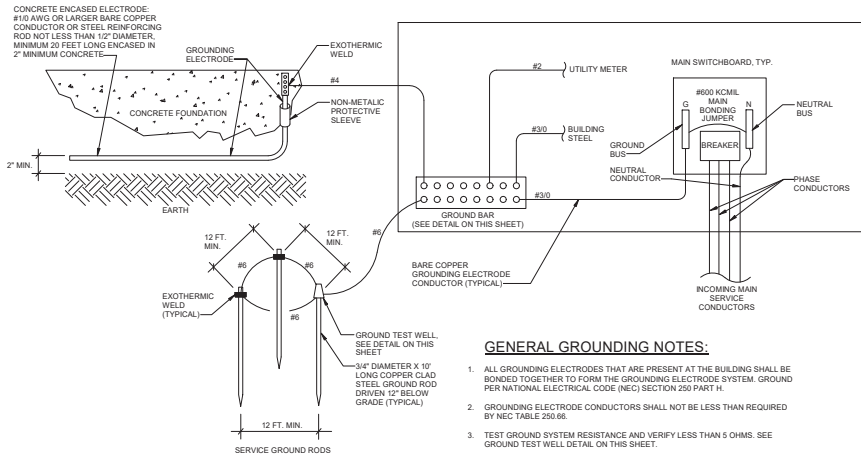
PROJECT DASH BUS FACILITY EXPANSION  
CITY OF ALEXANDRIA  
301 King Street, Alexandria, Virginia 22314

DRAWING ELECTRICAL LIGHTING PLAN - EQUIPMENT PLATFORM

SHEET

E-202

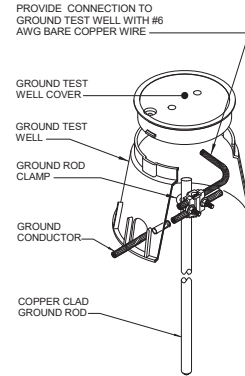




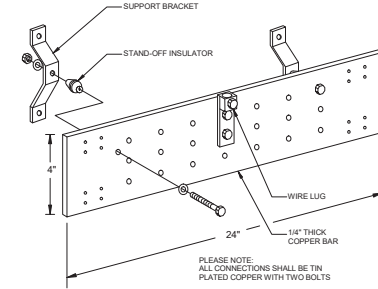
**1 MAIN SERVICE GROUNDING DETAIL**  
NOT TO SCALE

**GENERAL GROUNDING NOTES:**

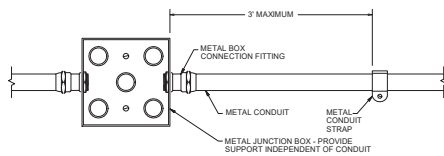
1. ALL GROUNDING ELECTRODES THAT ARE PRESENT AT THE BUILDING SHALL BE BONDED TOGETHER TO FORM THE GROUNDING ELECTRODE SYSTEM. GROUND PER NATIONAL ELECTRICAL CODE (NEC) SECTION 250 PART H.
2. GROUNDING ELECTRODE CONDUCTORS SHALL NOT BE LESS THAN REQUIRED BY NEC TABLE 250.66.
3. TEST GROUND SYSTEM RESISTANCE AND VERIFY LESS THAN 5 OHMS. SEE GROUND TEST WELL DETAIL ON THIS SHEET.
4. ALL GROUNDING AND BONDING CONDUCTORS SHALL BE COPPER.



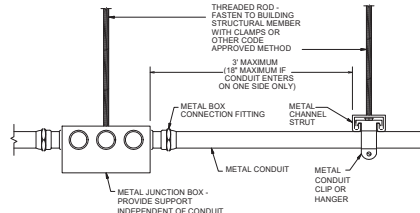
**2 GROUND TEST WELL DETAIL**  
NOT TO SCALE



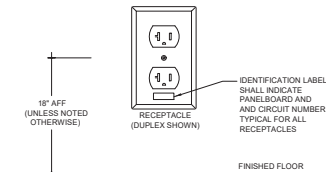
**3 GROUND BAR DETAIL**  
NOT TO SCALE



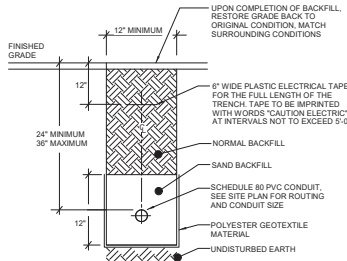
**4 SURFACE MOUNTED J-BOX AND CONDUIT DETAIL**  
NOT TO SCALE



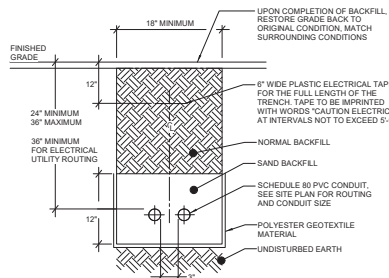
**5 SUSPENDED J-BOX AND CONDUIT DETAIL**  
NOT TO SCALE



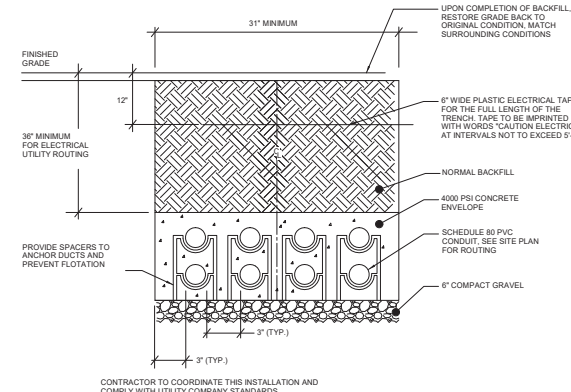
**6 TYPICAL POWER OUTLETS**  
NOT TO SCALE



**7 (1) UNDERGROUND CONDUIT DETAIL**  
NOT TO SCALE



**8 (2) UNDERGROUND CONDUIT DETAIL**  
NOT TO SCALE



**9 8-WAY CONCRETE ENCASED DUCTBANK DETAIL**  
NTS

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PROJECT DASH BUS FACILITY EXPANSION  
CITY OF ALEXANDRIA  
301 King Street, Alexandria, Virginia 22314  
DRAWING ELECTRICAL DETAILS I

SHEET

E-501

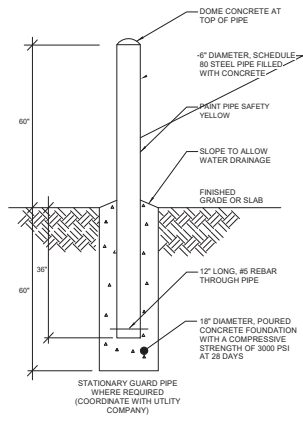


## GENERAL NOTES:

1. UNSWITCHED HOT LEG FOR NIGHTLIGHT, EMERGENCY BATTERY PACKS, AND EXIT SIGNS
2. TWO HOUR OVERRIDE TIMER SWITCH LOCATED IN FIRST FLOOR MAIN ELECTRICAL ROOM. LABEL SWITCH "NIGHT TIME OVERRIDE". SWITCH SHAL1 BE YORK SSA200 OR EQUIV



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CONTRACTOR TO COORDINATE THIS  
INSTALLATION AND COMPLY WITH UTILITY  
COMPANY STANDARDS

**PROTECTION BOLLARD NOTES:**

1. INSTALL ALL GUARD PIPES IN CONCRETE FOUNDATION FOR STATIONARY GUARD PIPES  
ONLY, FILL WITH CONCRETE.

**1 UTILITY COMPANY PROTECTION BOLLARD DETAILS**  
NTS

|           |
|-----------|
| DES       |
| BY        |
| MARK DATE |
| REVISIONS |

|              |          |
|--------------|----------|
| DATE         | 05/27/25 |
| PROJECT      | 00046811 |
| DESIGNED RES |          |
| DRAWN RES    |          |
| CHECKED KAS  |          |

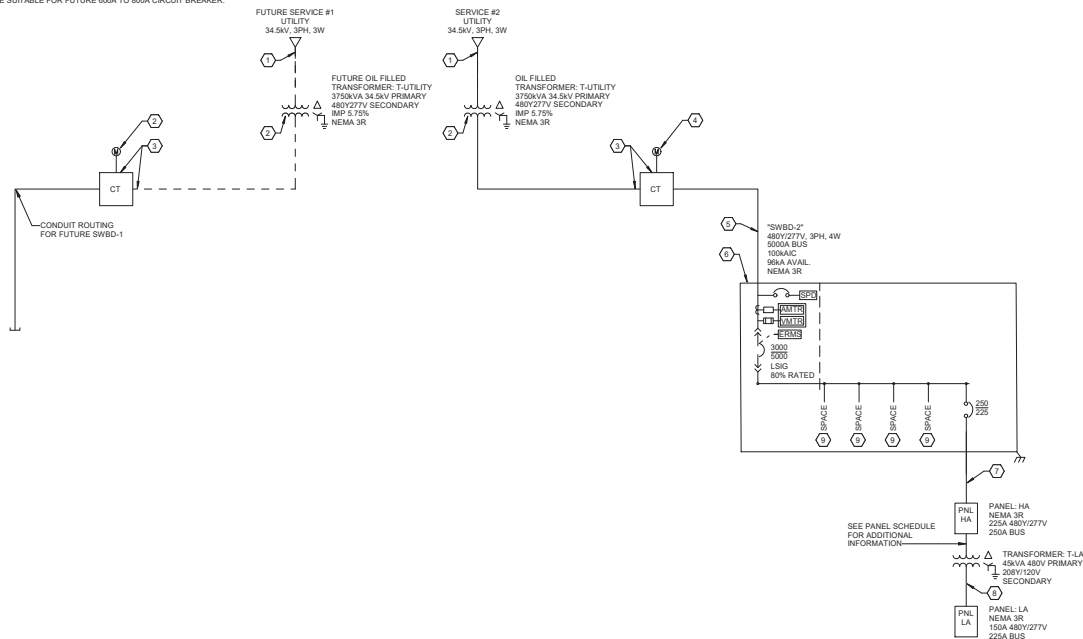
ENGINEERS  
PLANNERS  
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SPARKS, MD 21152  
(301) 552-1000  
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PROJECT DASH BUS FACILITY EXPANSION  
CITY OF ALEXANDRIA  
301 King Street, Alexandria, Virginia 22314  
DRAWING ELECTRICAL DETAILS III

SHEET  
E-503

1. COORDINATE UTILITY ENTRANCE WITH DOMINION ENERGY. DOMINION ENERGY (UTILITY) TO PROVIDE CONDUIT AND CONDUCTOR UPSTREAM FROM UTILITY TRANSFORMER. PROVIDE 1" RIGID GALVANNEZED STEEL CONDUIT WITH 4-10# AWG CU THHN CONDUCTOR.
2. PROVIDE 1" RIGID GALVANNEZED STEEL CONDUIT WITH 4-10# AWG CU THHN CONDUCTOR TO ENERGY TO PROVIDE CONDUIT AND PRIMARY CONDUCTOR.
3. PROVIDE 1" RIGID GALVANNEZED STEEL CONDUIT WITH 4-10# AWG CU THHN CONDUCTOR BANK FROM TRANSFORMER SECONDARY TO CT CABINET MOUNTED TO BUILDING. PROVIDE CT CABINET AND UTILITY METER SOCKET. PROVIDE 6 SETS OF 4" PVC WITH 600 CMIL XHHW-2 CONDUCTOR.
4. PROVIDE METER SOCKET MOUNTED ADJACENT TO CT CABINET. PROVIDE 1" RIGID CONDUIT WITH 4-10# AWG CU THHN CONDUCTOR TO CT CABINET. PROVIDE 1" RIGID CONDUIT WITH 4-10# AWG CU THHN CONDUCTOR TO COORDINATE FINAL LOCATION WITH DOMINION ENERGY.
5. PROVIDE 4" RIGID GALVANNEZED STEEL CONDUIT TO THE SIDE OF THE BUILDING AND ROUTED TO THE BUILDING. PROVIDE 1" RIGID GALVANNEZED STEEL CONDUIT WITH 4-10# AWG CU THHN CONDUCTOR. PROVIDE SERVICE ENTRANCE RATED 480V/277V 5000A NEMA 3R SWITCHBOARD WITH MAIN BUSBARS AND 400A 240V 3P4W 3% XFLUORESCENT BREAKER.
6. PROVIDE 2-1/2" RIGID GALVANNEZED STEEL CONDUIT WITH 4-40# AWG CUHHP COPPER CONDUCTOR.
7. PROVIDE 1-1/2" RIGID GALVANNEZED STEEL CONDUIT WITH 4-10# AWG CU THHN CONDUCTOR.
8. SPACE SHALL BE SUITABLE FOR FUTURE 600A TO 800A CIRCUIT BREAKER.



**3** **EN**  
**NTS**

1. COORDINATE PRIMARY SERVICE ENTRANCE WITH DOMINION ENERGY UTILITY COMPANY.
2. COORDINATE SCHEDULED WORK, TESTS, AND INSPECTIONS WITH DOMINION ENERGY UTILITY COMPANY.
3. REFER TO E-001 FOR ELECTRICAL NOTICES, LEGENDS, SCHEDULES, AND ABBREVIATIONS.
4. REFER TO E-701 FOR PANEL, CONDUIT, WIRING, AND EQUIPMENT SCHEDULES.
5. THE QUANTITY OF ANY MATERIAL SHALL BE ADJUSTED TO THE FAULT PERCENT AT THE TIME OF INSTALLATION AND CALCULATION PER NEC ARTICLE 110.2(A). THE LABEL SHALL BE SIZED TO SATISFY THE REQUIREMENTS OF THE LOCAL JURISDICTION OF WHICH THE PROJECT IS LOCATED AND SHALL BE LETTERING AND A CONTRASTING BACKGROUND. THIS LABEL SHALL ALSO INCLUDE THE DATE OF THE CALCULATION.

1. CONDUITS PROVIDED SHALL BE DETERMINED ON INSTALLATION LOCATION AS SHOWN BELOW:  
 A. ALL INDOOR CONDUITS SHALL BE EMT TYPICAL UNLESS NOTED OTHERWISE.  
 B. ALL OUTDOOR CONDUITS SHALL BE RIGID GALV STEEL TYPICAL UNLESS NOTED OTHERWISE.  
 C. ALL CONDUITS SURROUNDING EQUIPMENT SHALL BE RIGID GALV STEEL UNLESS NOTED OTHERWISE.  
 EACH CIRCUIT IS TO BE ENCLOSED IN CONDUIT SIZED PER THE CONDUIT SCHEDULE ON THIS SHEET.  
 2. ALL CONDUITS SHALL BE INSTALLED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.  
 3. SIZE OVERSIZED CONDUITS ARE ALLOWABLE WHERE REQUESTED AND APPROVED BY OWNERS REPRESENTATIVE.  
 4. CONTRACTOR MAY ELECT TO COMBINE TWO OR THREE NON-HARMONICS PRODUCING CIRCUITS IN ONE RACER CONDUIT. CONTRACTOR TO NOTIFY OWNER OF THIS. THREE CIRCUITS IN A COMMON CONDUIT, EXCEPT WHERE SPECIFICALLY NOTED AND ALLOWED.  
 5. ALL WIRES SHALL HAVE THIRTYTHREE INCHES OF CONDUIT UNLESS NOTED OTHERWISE.  
 6. ALL CONDUITS SHALL BE INSTALLED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE. TEMPERATURE RATING IS TO BE DETERMINED BY NEC ARTICLE 110.14(C1).  
 7. 100% RATED 100A OR LESS SHALL HAVE CIRCUITING RATED BASED ON 80% IN FEEDER AMPACITY SCHEDULE.  
 8. 100% RATED OVER 100A SHALL HAVE CIRCUITING RATED BASED 75% IN FEEDER AMPACITY SCHEDULE.  
 9. FOR EACH 2-POLAR OR 3-POLAR BRANCH CIRCUIT, NEUTRAL WIRE MAY BE OMITTED IF NOT REQUIRED BY THE NATIONAL ELECTRICAL CODE.

|      |      |    |     |
|------|------|----|-----|
| MARK | DATE | BY | DES |
|      |      |    |     |

|          |          |
|----------|----------|
| DATE     | 05/27/25 |
| PROJECT  | 00046811 |
| DESIGNED | RBS      |
| DRAWN    | RBS      |
| CHECKED  | KAS      |



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PROJECT DASH BUS FACILITY EXPANSION  
CITY OF ALEXANDRIA  
301 King Street, Alexandria, Virginia 22314  
DRAWING ELECTRICAL ONE LINE DIAGRAM

SHEET

E-601

| <b>Circuit Breaker Legend:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                       |                      |                         |                                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|----------------------|-------------------------|--------------------------------|
| AF: Air Fault Circuit Interrupter, GF: Ground Fault Circuit Interrupter, IG: Isolated Ground, LO: Lock-On Clip, ST: Shunt Trip                                                                                                                                                                                                                                                                                                                                                        |                       |                      |                         |                                |
| <b>Notes:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                       |                      |                         |                                |
| 1. All breakers 100amp or less shall be rated for 75°C/90°C wire termination. Breakers rated for 60°C/75°C wire termination shall not be used. All breakers greater than 100amp shall be rated for 75°C termination. N.E.C. Article 110.14(C)(1).<br>2. For 3-wire feed, "N" and "G" where neutral is not used or req'd. Similarly for 2-wire + "G" feed, neutral is not used.<br>3. All fire alarm circuit protective devices shall be indicated with red (e.g. red circuit breaker) |                       |                      |                         |                                |
| <b>Load Classification</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>Connected Load</b> | <b>Demand Factor</b> | <b>Estimated Demand</b> | <b>Panel Totals</b>            |
| WVA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 0 VA                  | 0.00%                | 0 VA                    | Total Conn. Load: 1240 VA      |
| Kitchen                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 0 VA                  | 0.00%                | 0 VA                    |                                |
| Lighting                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 0 VA                  | 0.00%                | 0 VA                    | Total Est. Demand: 1240 VA     |
| Miscellaneous                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 0 VA                  | 0.00%                | 0 VA                    |                                |
| Motor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 0 VA                  | 0.00%                | 0 VA                    | Total Conn. Current: 5 A       |
| 3240 VA                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 3240 VA               | 100.00%              | 3240 VA                 | Total Est. Demand Current: 5 A |

**NOTES:**  
1. PROVIDE EMERGENCY FIXTURE WITH 90 MINUTE BATTERY BACKUP


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